Top 17 Cases Version 4/27/2020, with Addendum

* All addenda written by submitters.

1. Headless Outlaw's Torso in Old Lava Tube

Name of Submitter: Clark County Sheriff Bart May

Location: Dubois, Idaho, U.S.A.

Agency: Clark County Sheriff's Office, Idaho

Date of Crime: 1916

Date and Type of Hit:

2018-2019 (genetic genealogy to match with general family tree); 2018-2019 (familial match with living grandson to confirm family relationship)

Executive Summary:

100-year-old unidentified human remains found in an old lava tube in 1979 leads to a cold case identification effort that lasts many years. However, his head was never located, baffling the FBI and other investigators for years. They could only establish that he was of European descent, with reddish-brown hair, and was about 40-years-old at the time of death. His arms, hand, and legs were found in 1991.

Over the years, investigators enlisted the help of Idaho State University and its team of forensic genetic genealogists (anthropology students and staffers). This also included experts from the Smithsonian Institution and the FBI. Last year investigators further enlisted the help of the DNA Doe Project, hoping to use DNA and ancestral analysis to identify the man. Experts from Othram, a forensic DNA analysis company, analyzed samples taken from the remains, while a forensic genealogist from the DNA Doe Project worked with her colleagues to build a 'genealogical tree'.

The man's DNA profile was then uploaded to various genetic genealogy DNA databases for relatives. This led to the man's living 87-year-old grandson, whose sample was taken and tested to confirm a familial relationship. The two profiles confirmed a familial relationship and traditional genealogy research was used to fill in the rest. The family tree was huge, because the man was descended from pioneers who came from Utah with the Church of Jesus Christ of Latter-Day Saints and his likely grandfather was a polygamist with four wives. This meant that the man's extended family and relatives numbered in the hundreds. Apparently, there ended up being many matches to first cousins three times removed, which is very unusual in this type of scenario according to the forensic genealogist working the case and other case documents. They used news articles, gravestone information, and other records to try to narrow down the list of candidates.

In the end, out of all the possible candidates one thing in particular led investigators to believe the man's identity was that of Joseph Henry Loveless – his gravestone was a cenotaph, a stone with his name on it but with no body buried underneath. This was consistent with his body being found in the lava tube. Another critical clue was his 'wanted poster' at the time, showing his face and exact clothes he was wearing at time of escape from prison – all of which matched exactly to the clothes found on the man in the lava tube. In the end, it turns out that after murdering his own wife with an axe, the man was killed by his local community and left in the old lava tube. His case remains an open criminal investigation.

<u>Scientific Significance</u>: Clark County John Doe Project said that 14 genealogists over the course of 15 weeks put in over 2,000 hours of genealogical research into this identification. Ancestral research and DNA are used in conjunction to determine the identity of man dead for over 100 years.

<u>Investigative Significance</u>: A man who went missing in 1916 was identified after his remains are found in a <u>lava tube</u>. The identification of this man reveals some other very interesting things about his past.

<u>Other:</u> This case received strong international media. According to the <u>New York</u> <u>Times</u>, it is one of the oldest cases "solved" (since no killer was identified, just cause of death and history) solved via genetic genealogy. For the DNA Doe Project, it was the oldest identification it has made.

Facts Written by Submitter

In 1979 the torso of a man was found inside an old lava tube just outside of Dubois, Idaho. In 1991 the arms, hands and legs were found in the same cave in the vicinity of where the torso was found in 1979. The head has never been found. Thru DNA we were able to finally identify the remains as Joseph Henry Loveless. Once we had a DNA match, we tracked down an 87-year-old grandson where we got DNA from him and compared to that of the remains which gave us a positive match for grandson to grandparent relationship. Now that we knew the name of the remains, we were able to learn that back in 1916 he killed his wife and was incarcerated in the Fremont County Jail whereas 3 days later he escaped to never be seen again. It is believed that Joseph Henry Loveless was killed in 1916, chopped up and buried in the lava tube, and it wasn't until 63 years later that his torso was recovered, and 75 years until his arms and legs were found. It is believed that Joseph Henry Loveless was killed over 104 years ago. This cold case remains would have never been identified had it not been for today's DNA technology. We are extremely grateful for all the hard work that has gone into this case.

<u>Additional Information:</u> Loveless had a very interesting criminal history. He was a bootlegger and counterfeiter who once escaped prison using a saw he snuck into his cell with a shoe. He also managed once to stop a moving train that he was being transported on to flee escape from law enforcement. It is believed he killed his wife with an axe by "beating her brains out." It is believed he died in the same clothes he was featured in his wanted poster for having killed his wife.

Links to Media Coverage:

Recommended Primary Source - NYTimes https://www.nytimes.com/2020/01/03/us/idaho-outlaw-remains-found.html International BBC Radio- CBC Radio - https://www.google.com/amp/s/www.cbc.ca/amp/1.5412861_ Daily Mail- https://www.dailymail.co.uk/news/article-7841633/Headless-torso-Idaho-cave-identifiedbootlegger.html?fbclid=IwAR1OUHMcnmV00WBN5xtzdU1Kiia2n4A36Srp_pnZEf WHulYUxgciN0YsHxA

Telemundo- <u>https://www.telemundo.com/noticias/2020/01/01/este-forajido-asesino-su-esposa-termino-muerto-en-una-cueva-envuelto-en-misterio-hasta-</u>

tmna3634318 AD- https://www.ad.nl/buitenland/raadsel-van-lijk-zonder-hoofdna-40-jaar-deelsopgelost~a8143f39/?referrer=https://www.google.com/ BT- https://www.bt.dk/ udland/et-hovedloest-lig-blev-fundet-i-en-grotte-nu-er-en-mere-end-100-aargammel-sag

The Daily Beast - <u>https://www.thedailybeast.com/dna-sleuths-reveal-body-found-in-idaho-cave-40-years-ago-is-outlaw-joseph-henry-loveless-killed-in-1916</u>

Many links (about 50) sent from around the world! This case received significant coverage from many different news outlets around the world.

<u>Addendum</u>

The Strange (and True!) Story of Joseph Henry Loveless

Submitted by: Dr. Samantha Blatt (Idaho State University), Dr. Amy Michael (University of New Hampshire), Lee Bingham Redgrave (DNA Doe Project), Anthony Lukas Redgrave (DNA Doe Project), Dr. Margaret Press (DNA Doe Project), Dr. Colleen Fitzpatrick (DNA Doe Project)

Joseph Henry Loveless was a Wild West outlaw, bootlegger, and murderer with many aliases and jailbreaks during his life. All that was known about this case for 40 years since the recovery of the body was that he was a homicide victim who had been dismembered of all limbs and hidden in a remote landscape within a secluded lava tube. The results of DNA analyses presented a story to the world which encapsulates a time in American history where the law and the outlaw were at war in many respects in the West and when pioneer settlers were taking root.

This case was challenging for law enforcement at local, state, and federal levels, and evoked intriguing conversations and scientific debate among forensic anthropologists, DNA scientists, and genetic genealogists. Although the remains were first discovered wrapped in burlap in a shallow grave in 1979 there was no conclusive evidence to support a reliable postmortem interval (PMI). The Clark County Sheriff remarked in 1979 that the clothing found with the remains looked like that of an old gambler from 60 years past, but the pungent smell and mummified flesh on the body led the coroner to believe the man had not been in the cave for a very long. The renowned Dr. Douglass Ubelaker from the Smithsonian Institute reported to the Federal Bureau of Investigation his findings in 1979, but he too was perplexed and uncertain of the PMI. Over the years, many anthropologists could not improve on the PMI or indicate further leads and aside from noting that the body was that of a male, likely of European ancestry, and around 5'6" to 5'11" tall, and has evidence of extensive dismemberment, there were few physical leads in the case. No head was ever recovered despite searching the cave multiple times and making inquiries of solitary skulls found regionally. Without a narrowed PMI or evidence or the timeline of the crime, the victim remained unidentified and since 1991, the remains were held

at Idaho State University until the DNA Doe Project agreed to sponsor genetic genealogy of the case in 2019.

Even today, the case remains open and there is hope that further genetic evidence will lead to the perpetrator(s) in the same way they lead to the identification of the victim and will finally shed a light on a more complete story of Loveless' life and death to finalize this story for the family and community. Though Joseph Henry Loveless has been deceased for over a century, his marked grave remained empty; he was a missed man no matter his past.

In all, this case has shouted near and far the advantages and successes of combining forensic anthropology with DNA evidence and the use of DNA and genealogical databases. Interest in this case led to crowd-sourced funding to support the DNA extraction and sequencing as the surrounding Idaho and regional Western communities and donors from around the world who never before heard of genetic genealogy adopted this case as their own. Similarly, through discussions with regional cold case sleuths and university students, many people decided to contribute their own DNA to databases used by law enforcement and forensic genealogists alike. This case is significant in that the deep historical interest in the American West and outlaw bootlegging history was coupled with DNA analyses and holistic sciences in a way that was accessible and edible for the public, which can help build the public's interest in DNA databases and law enforcement's appeal to using such databases.

Further Scientific Significance

Estimation of the postmortem interval (PMI) within the field of forensic anthropology is among the most difficult and contentious components of building a biological profile and crime timeline in order to narrow perpetrators for forensic anthropologists and law enforcement. This case exemplifies the difficulties of estimating PMI and has re-opened the discussion within the field to prompt further regional and environment-specific actualist decomposition studies. Currently, a student at Idaho State University is designing a Master's research project with this gap in knowledge of decomposition rates in micro-climates in the Intermountain West as the focus. Further, a research article highlighting this case from forensic anthropological and genealogical perspectives is in preparation for academic audiences. This will be the first manuscript to detail the trauma analysis, biological profile, histological analyses, and genealogical findings (recent bedfellows). There are also currently two long articles and books in the works about this case geared toward public interest. It is absolutely necessary for these academic pursuits to be translated for the public to engage their interest, especially as both these fields are in service to the public. Additionally, a conference devoted to the history of Idaho and Western North America will highlight this case in a special symposium, which will draw the public and researchers from around the Intermountain West. In this sense, the case serves as a significant tool for multidisciplinary discourse about some of the major pitfalls and major advances in cold case investigation.

Collaborative efforts and new partnerships

Law enforcement in Clark County had not previously worked with forensic genealogists, but were willing to try anything to get the remains in the cave identified. To that end Clark County Sheriff's Office collaborated with: Idaho State University anthropologist Dr. Samantha Blatt, University of New Hampshire anthropologist Dr. Amy Michael, DNA Doe Project (Dr. Colleen

Fitzpatrick and Dr. Margaret Press, co-founders), Lee Bingham Redgrave and Anthony Redgrave and the rest of the dedicated team of forensic genealogy volunteers at DNA Doe Project, DNA Solutions, Inc, Othram, Inc., Dr. Greg Magoon (contracting through Full Genomes Corp), GEDmatch, FamilyTreeDNA, and the many donors. All came together to help resolve the identity of the body in the cave which had eluded many other forensic experts since 1979, including the esteemed Dr. Douglas Ubelaker (who used this case to demonstrate post-mortem perplexities in a chapter in Bones: A Forensic Detective's Casebook). While many of the volunteers on the case had never even been to Idaho, they treated the identification as a priority and worked diligently for months following leads and building ancestry trees.

Immediately after the press conference for this case, we began discussing other cold cases in the county that could benefit from forensic genealogical methods and have since formed tighter networks with law enforcement and coroner's officer around the state and into Utah interested in finding resolution for long-standing cold cases that most have placed on the back burner.

Resolution for community

Many in southeast Idaho had heard the story of the man in the cave over the years. Idaho State University students and local law enforcement had searched for the rest of the body, knowing that the head would be critical to a positive identification. As the years went on, the discovery became something of legend in the state. The case was subject to speculation on many cold case websites and websleuths forums, but the passage of time threatened the case to slip into obscurity.

The press conference held to reveal the man's identity was scheduled for December 31, 2019. Held at a community center in tiny Dubois, Idaho, it was well attended and nearly everyone was shocked when it was revealed that the man had been in the cave for some 60+ years *before* his discovery, as the original Dubois Sheriff postulated unheard. A woman who had discovered a portion of the body when she was just a child commented on social media that she was relieved to know the identity of the man as she had always dreamt about the body her family found in the cave. This is a poignant closure to Ubelaker's chapter too, in which he begins by referring to the girl who discovered the body and how it may have impacted her life. In a small tight-knit community like Dubois, Idaho they embraced this case as a part of their history and the history of pioneering days of the region. It was clear from the press conference that this brought the community together with law enforcement and acknowledged the fact that even in a small town, victims were important no matter the date of the crime.

The role of genetic genealogy

Joseph Henry Loveless had been deceased for 103 years before he was identified, making this the oldest open Doe case to be closed by law enforcement using forensic genealogy. Older Does have been identified with DNA, but within the context of archaeological or historical investigations. A DNA Doe Project team of about 14 volunteer forensic genealogists over the course of more than 2,000 cumulative hours researched the family trees of 250 of Loveless' genetic cousins. By the time the team came to a conclusion, there were over 31,730 individuals in Loveless' genealogical tree. An identification was made 15 weeks after Loveless' autosomal profile was first uploaded to GEDmatch. This tentative identification made by the team was then

confirmed by law enforcement via a comparison sample willingly submitted by a living grandchild.

Every forensic genealogy case comes with its own challenges, but the identification of Joseph Henry Loveless had several major hurdles. Loveless descended from pioneer families of the Church of Jesus Christ of Latter-day Saints during a time when polygamy was practiced, leading to multiple half-relationships and endogamous relationships among Loveless' present-day genetic cousins. The team also had a very broad PMI and age estimate to base their research on, making it difficult to accurately gauge a rough birth year and lack of evidence of proof of life activity. Forensic Genealogists find the use of forensic approximations useful in their research for looking for familial facial similarities, and the inability to use this method, due to his head never having been found, was another point of difficulty. Nonetheless, the forensic genealogy team worked hard and long hours to reach an identification which surprised even the most seasoned genealogists on the team.

During the search, many interesting historical documents related to Loveless's colored past were found, including the Wanted poster which detailed clothing that he was wearing during his last jailbreak. It was the same clothing found on the body in the cave, leading law enforcement to believe that Loveless was killed shortly after his final jailbreak.

Forensic art

A composite image created by Anthony Redgrave shows what Loveless may have looked like during life. Details taken from the Wanted poster, as well as the images of his parents, were used to create the composite. This image was very effective in recreating a visceral connection for the world audience to the victim given the time that had elapsed.



Historical images related to the case

JAILBREAK AT POCATELLO.

Walter Garron Tires of Accommodations and Takes French Leave.

Pocatello, Idaho, Feb. 21.—Walter Garron, in jail for applying air brakes to a train near Soda Springs, so that he could alight, sawed a bar off of his cell door and escaped from jail Friday morning and had not been recaptured fate Saturday night. He was seen near Lava Hot Springs early this morning.

Article citing one of Loveless' many aliases (Walter Garron).



Article detailing the crime for which Loveless was imprisoned and escaped for the last time.



Gravestone in Payson, UT where the Loveless family had paid for a plot for Joseph Henry. Note the birth date with no death date. The grave remains empty.



Walt Cairns, age about 40 years, height about 5 ft. 8 or 9 in., weight about 165 pounds, dark brown hair, slightly gray around ears, eyes bluish brown, medium complexion, has little or no eyebrows, small scar over right eye, tattoo of star on right hand between thumb and index finger, also tattoo of anchor same place on left hand; he wore a light colored hat, brown coat, red sweater, blue overalls over black trousers

Walt Cairns is supposed to have murdered Mrs. Agnes Loveless, with an axe, at Dubois, Idaho, night of May 5th, 1916. He was arrested and taken to St. Anthony, Idaho, where he sawed out of the county jail on the evening of May, 18th, 1916

Arrest, hold and wire all information at my expense

JOHN T. FISHER, Sheriff St. Anthony, Idaho

Wanted ad from the final jailbreak. Note the clothing description. These are the clothes that were found with the body in the cave.

Media Coverage

We lost count at over 100+ international media mentions, interviews, articles, and citations. The story went viral around the world, bringing together those interested in true crime, genealogy, molecular anthropology, forensic anthropology, and history. Members of the team involved in this case were interviewed across North American, Western and Eastern European, and Korean media outlets for print, television, radio, and blogs. These stories hit the local and regional syndicated news and print as well. The case is now even listed on Wikapedia.com (https://en.wikipedia.org/wiki/Joseph_Henry_Loveless).

New York Times

https://www.nytimes.com/aponline/2019/12/31/us/ap-us-cave-body-identified.html https://www.nytimes.com/2020/01/03/us/idaho-outlaw-remains-found.html

NBC News (Anthony Redgrave interviewed on Lester Holt's show) https://www.nbcnews.com/news/us-news/human-remains-found-idaho-cave-identified-outlawwho-died-over-n1109111

CNN

https://www.cnn.com/2020/01/01/us/man-identified-100-years-latertrnd/index.html?fbclid=IwAR2B9lj7ISDBbQfIcrwok_TnMkZmtlWZg5oJiS1fnCU0N5hJWsFM ENTNWvs

ABC News- https://abcnews.go.com/US/wireStory/headless-torso-found-idaho-cave-identified-bootlegger-

68010289?fbclid=IwAR2B9lj7ISDBbQfIcrwok_TnMkZmtlWZg5oJiS1fnCU0N5hJWsFMENT NWvs

The Guardian

https://www.theguardian.com/us-news/2020/jan/01/headless-torso-found-cave-identified-murderer-escaped-jail-1916

USA Today

https://www.usatoday.com/story/news/nation/2020/01/01/joseph-henry-loveless-dismembered-body-found-idaho-identified-outlaw/2789895001/

CBS News

https://www.cbsnews.com/news/joseph-henry-loveless-headless-torso-found-idaho-cave-identified-outlaw-who-escaped-jail-in-1916/

ABC News

https://abcnews.go.com/US/wireStory/headless-torso-found-idaho-cave-identified-bootlegger-68010289

Washington Examiner https://www.washingtonexaminer.com/news/body-found-in-idaho-cave-identified-as-outlawwho-disappeared-in-1916

Smithsonian Magazine

https://www.smithsonianmag.com/smart-news/dna-evidence-reveals-headless-corpse-cave-1916-axe-murderer-180973911/

Washington Post

https://www.washingtonpost.com/history/2020/01/02/he-escaped-jail-after-killing-his-wife-century-ago-now-his-headless-torso-has-been-identified-through-dna/

Forensic Magazine

https://www.forensicmag.com/559441-Infamous-Buffalo-Cave-Torso-Identified-One-of-the-Oldest-Cases-Resolved-Using-Forensic-Genealogy/

Daily Mail

https://www.dailymail.co.uk/news/article-7841633/Headless-torso-Idaho-cave-identifiedbootlegger.html?fbclid=IwAR1OUHMcnmV00WBN5xtzdU1Kiia2n4A36Srp_pnZEfWHulYUx gciN0YsHxA

The Daily Beast

https://www.thedailybeast.com/dna-sleuths-reveal-body-found-in-idaho-cave-40-years-ago-is-outlaw-joseph-henry-loveless-killed-in-1916

Telemundo

https://www.telemundo.com/noticias/2020/01/01/este-forajido-asesino-su-esposa-terminomuerto-en-una-cueva-envuelto-en-misterio-hasta-tmna3634318

ΒT

https://www.bt.dk/udland/et-hovedloest-lig-blev-fundet-i-en-grotte-nu-er-en-mere-end-100-aar-gammel-sag

The Telegraph

https://www.telegraph.co.uk/news/2020/01/01/headless-torso-idaho-cave-identified-wild-west-outlaw-

killed/?fbclid=IwAR11SFrCFKBVWE1KjBJUMT2k6LlxgA8mZO76sel0LAHuH7BkzU8uOGJ JhX4

People Magazine

https://people.com/human-interest/joseph-henry-loveless-headless-torsorevealed/?fbclid=IwAR2UF8a_49cPD6x8zBhAZdyytM_4Wn3ZjQvjuGZH57bjJ3Ugvw0A0YI N0jI

Mental Floss https://www.mentalfloss.com/article/610970/headless-torso-from-idaho-cave-identified

2. The case of Sarah Yarborough

<u>Name of Submitter</u>: Thomas Jensen (and Colleen Fitzpatrick of Identifiers International)

Agency: King County Sheriff's Office, Washington State

Location: Federal Way, Washington, USA

Date of Crime: 1991

Date of Hit: 2019

<u>Executive Summary:</u> A murder of a high school girl in 1991 remain unsolved for 28 years. Although DNA was retrieved from the murder scene, it produced no matches in CODIS due to legal loopholes in Washington State DNA collection and familial searching rules preventing identification of the killer via relatives. However, in 2011 genetic genealogy was first attempted using Y-STR familial searching, leading to a match to the Fuller family, which included a longtime friend of Yarborough. Fuller voluntarily provided his sample which excluded him from investigation but his Y-STR profile continued to match the killer's indicating paternal cousin relationship. In 2019, using genetic genealogy the killer was narrowed down to two brothers, one of whom was a registered sex offender and whose DNA profile was included into the database. The brother, named Patrick L. Nicholas, was followed and his DNA surreptitiously collected, leading to a match. Nicholas was arrested, charged, and is awaiting trial.

Those legal loopholes include:

- The murderer being able to plead for a lower conviction on child molestation (gross misdemeanor as opposed to felony) which avoided DNA sample collection and inclusion into the database in 1993 under Washington State law;
- The murderer's brother was included into CODIS on a rape convicted. Because Washington State does not practice familial searching, the two cases were never connected.

<u>Scientific Significance</u>: This case received national attention at the time. This case is the first known instance where direct-to-consumer DNA test data was used to generate investigates leads for a cold case, opening the door for future cases solved via genetic genealogy; after DNA match in CODIS in 2019, it was discovered that Sarah's could have been discovered 20 years earlier through CODIS but due to legal loopholes it was not possible.

Although genetic genealogy matched to the Fuller surname, Yarborough's killer's surname was Nicholas because his grandfather was adopted so that his legal surname was not his biological surname. This shows that even genetic genealogy has its limitations.

<u>Investigative Significance</u>: This case lasted for 28 years and was only solved in 2019 through genetic genealogy (Colleen Fitzpatrick and team). This case received national attention at the time.

Submitted Facts by Thomas Jensen (King County):

Sarah Yarborough, a 16-year-old member of the Federal Way H.S. drill team was murdered and sexually assaulted on the grounds of the high school in December of 1991. She was an attractive All-American girl. The murder sent shockwaves throughout the school and the community. The King County Sheriff\'s Office worked the case ceaselessly for nearly 28 years. In spite of ample DNA left at the crime scene by the suspect, and the hundreds of possible suspects that were interviewed and compared, there were no hits in the known offender database (CODIS/NDIS). In 2019 Detective Kathy Decker initiated a request to have this unknown DNA processed for genetic testing and ancestral analysis. Colleen Fitzpatrick and a group of geneticists narrowed the 'suspect' field down to two brothers, one of whom was a registered sex offender, and whose DNA was on file. The other did not have DNA in the system. That individual was followed, and cast-off DNA was obtained that matched to the DNA at the Yarborough crime scene. Patrick L. Nicholas was arrested, charged, and is awaiting trial.

It is difficult to put into words what finally solving this case meant to Federal Way H.S., the community, and the officers and detectives that devoted thousands of hours to this case over three decades.

Submitted Facts by Colleen Fitzpatrick:

The Yarborough homicide was first attempted in 2011 by comparing the Y-STR profile obtained from crime scene DNA to public Y-STR genetic genealogy databases. When the case was solved in 2019 using autosomal SNP testing/GEDmatch, it was discovered that Sarah's killer could have been identified at least twenty years earlier through CODIS, but loopholes in the legal system had allowed him to avoid detection.

In 2011, a match was found for the killer's Y-STR profile to members of the Fuller Y-STR surname project who were descendants of Robert Fuller of Salem, Massachusetts in the 1630s, a relative of the Mayflower Fullers. Suspicion fell on William Fuller, a long time Yarborough family friend, who had been in the area at the time of the murder, and whose daughter Elizabeth was Yarborough's classmate. When William Fuller voluntarily gave a DNA sample, it was determined that he was not the killer nor was he the father of the killer. However, his Y-STR profile matched the Y-profile from crime scene DNA, indicating he was a paternal cousin of the killer, although it was not possible to estimate how closely they were related. The unusual situation developed that although the killer was still unknown, authorities knew his genealogy back to the 1600s and had even identified a cousin. Fullers living in the area were investigated but the case went cold again.

The 2019 identification of Patrick Nicholas as a suspect using autosomal SNP testing raised awareness of the limitations of CODIS, and fueled debate over the role of familial searching versus genetic genealogy. Nicholas was convicted in 1983 of attempted first-degree rape in Benton County, WA before CODIS was launched in the 1990s. In 1993, he was arrested again for first degree child molestation. Although his DNA profile should have been entered into CODIS, he was allowed to plead to gross misdemeanor that did not require DNA collection. He escaped detection a second time. After Nicholas 'arrest, it was discovered that his brother Edward had already been entered into CODIS for a prior conviction for rape in the first degree; he was also a registered sex offender. Because Washington does not practice familial searching, Patrick Nicholas had escaped detection a third time.

Upon Nicholas's identification using genetic genealogy, King County Sheriff's Office quickly secured his DNA from discarded cigarettes. His DNA was found to be a CODIS match to the DNA profile developed from the victim. Nicholas has been charged with first degree murder with sexual motivation. He is currently pending trial in King County Superior Court, Seattle, Washington. Ironically, Sarah's killer was named Nicholas, not Fuller. His grandfather was adopted, so that his legal surname was not his biological surname, highlighting the fact that even genetic genealogy has its loopholes.

<u>Additional Information</u>: This case involved third-party DNA analysis help through Colleen Fitzpatrick and a group of geneticists.

Links to Media Coverage:

https://www.bing.com/videos/search?q=sarah+yarborough+murder&view=detail &mid=AAFFD4EE663AB3ECA741AAFFD4EE663AB3ECA741&FORM=VIRE

https://www.kiro7.com/news/local/wednesday-at-5-30-why-isnt-washingtonusing-dna-tool-to-solve-crimes-/1010311730/

https://www.thenewstribune.com/news/local/crime/article235766782.html

<u>Addendum</u>

PLEASE SEE - Addendum Packet Submitted by Colleen Fitzpatrick [separate document]

Submitted by Thomas Jensen

Sarah Yarborough was a 16-year-old student at Federal Way High School in the winter of 1991. On December 14 of that year she drove herself to FWHS at about 8 AM to assemble for a drill team competition. She will sometimes be referred to as a 'cheerleader' and wore a similar costume, but she was a member of the drill team. It was a very cold morning. She arrived an hour early.

Sometime in that hour Sarah was strangled and sexually assaulted in a bushy area some distance from where she parked her car. Shortly after 9 AM two young teens observed a male coming out of those bushes. They got a good look at him as he hurried away. As they approached the area, they could see something in the bushes, and investigating, they found Sarah's body. They ran home and their parents called the police.

That began an investigation that would span nearly 30 years, involve hundreds of police officers and detectives and thousands of manhours. Over that time nearly 4000 leads and tips were generated. The suspect was very generous with his seminal fluid and his DNA profile was easily obtained. Over the course of the investigation hundreds of individuals were compared with that sample. There were no matches. Since it was believed that this type of killer was likely to reoffend, there were projects to try and determine what happened to him. Did he die? Did he go to prison for some other offense that did not mandate DNA collection?

The detectives assigned never gave up. I believe that everyone that saw it, fell in love with the photo of Sarah and wanted to give her their very best. She was a beautiful, vibrant young lady, and the epitome of a truly innocent victim of a violent crime.

I personally became involved in the case about 3 or 4 days into the investigation. Because of my background in the Green River cases, I was designated as the 'case manager'. It was rapidly becoming apparent that someone would have to take responsibility for keeping track of what was happening, the suspects, the assignments, etc. And I had something nobody else had, a computer. The Green River computer. I am proud to say that I had the case under control within a week. I was managing the hell out of the case. But, it wasn't cooperating by coughing up a suspect.

My Green River partner, Jim Doyon, took over as lead investigator. With myself as case manager, how could we go wrong?

I guess the easy answer is that we never got a lead on the true suspect.

Over the years there were anniversaries, one, five, ten, fifteen, twenty, you get the idea. We did hundreds of hours of TV news hoping to generate that one tip.

Jim and I worked together on the Yarborough case over the next decade. In 2001 we got a DNA hit that solved the Green River murders, and Jim Doyon and myself were reassigned to a task force to investigate Gary Ridgway. We left the case in the hands of Major Crimes Detective Jim Allen, who would carry it through until his retirement. It was Jim Allen that first started exploring the idea of examining the suspect DNA in different ways.

He was in contact with Colleen Fitzpatrick about something called SNIPS, at least that what it sounded like. From that we learned he probably had blue eyes. Then came Parabon, and the possibility of creating a composite drawing of the suspect based on his DNA. We did that and got a good number of tips (I'm still case manager, logging in tips.)

Jim Allen had told us he was retiring, and may have even postponed it once due to Yarborough. He finally passed the torch to Detective Kathy Decker. She worked the leads and I managed the case for a year of so. Then, after a series of successful solutions to notable local cases, Kathy sent Yarborough DNA to Colleen Fitzpatrick.

And we waited.

Then one day that started, for me, like one in thirty-something each month, I went into the office. (I skipped some stuff for brevity. I retired in 2013, but kept my desk in a volunteer status. I would go into the office as needed, which tended to be about once a month.)

I wish I could come up with the date, but it wasn't all that long ago. There I am sitting at my desk, thinking 'why am I here today?', and Kathy Decker says she's got Colleen on the phone, and they think they've got him.

Now, a bit of background is necessary. I have known Kathy Decker for almost as long as I have been involved in the Yarborough case. She came into Major Crimes in the mid 1990's and thrived. But she had other callings. She went back to 'Search and Rescue' and honed her tracking skills. She's good. If I wanted to get lost, and didn't want anyone to find me, I'd make sure she was on vacation.

Then she came back to Major Crimes, and when Jim Allen retired she took over the Yarborough case. She is now retired, but actually stuck around an extra year to see Yarborough through, knowing that the genealogy DNA project was on the horizon.

Back to the story.

Decker put her phone on speaker and came to the front of the room, where myself and the Sergeants work. Colleen explained what they had done, and that they had narrowed the field to one of two brothers.

I don't recall much of the conversation. It was a very emotional several minutes for those of us who had been with the case for so long.

I had been through this before with Green River, when the State Crime Lab announced that they had matched DNA from several victim's with Gary Ridgway and that saga began to come to an end after almost 20 years.

Solving Yarborough took almost 30 years.

Which was more rewarding?

Don't you dare ask me that.

3. Ein Yael Attack - The case of Ori Ansbacher

Name of Submitter: Nurit Bublil

Agency: Israel National Center of Forensic Science

Location: Jerusalem, Israel

Date of Crime: 2019

Date of Hit: 2019

Executive Summary: Ori Ansbacher is reported as missing in the morning of February 7th, 2019. By that evening, she is found raped, strangled, and murdered in a forest. Israeli police find her body within hours of her death, collect DNA evidence, and develop a DNA profile and match by the morning of the next day. Police arrest the suspect the evening of the following day, almost exactly 24-hours after her murder.

<u>Scientific Significance</u>: Incredible speed of DNA analysis (overnight) and a DNA identification match with suspect within several hours. The suspect is arrested the day following the crime.

<u>Investigative Significance</u>: The suspect is arrested is under almost exactly 24 hours after the victim's body is found and DNA produces a match.

Facts Written by Submitter:

The murder of Ori Ansbacher (also known as the Ein Yael attack) was a terrorist attack during which a man raped and then murdered Ori Ansbacher, a 19-year-old young woman. On February 7, 2019, 11:00 AM, Ori's relatives reported her absence to the police. Ori volunteered at a youth center in Jerusalem and, according to friends, on the same day she had left the center agitated and went to seclude herself in nature, as she often liked to do. At 19:14 PM that day, her lifeless body was found by the police in the Ein Yael forest in the outskirts of Jerusalem, with signs of harsh violence. Medical examiners from the Israeli National Center of Forensic Medicine arrived at the scene toward 22.00 PM. The victim was stabbed, strangled, and raped. Intimate DNA samples from the victim were collected and sent immediately to the Forensic Biology lab at the National Center of Forensic Medicine.

DNA samples were processed overnight: Screening for semen was found positive for 4 samples, a preferential DNA extraction, DNA quantitation, PCR and typing were completed through the morning. On February 8, 2019, 08:00 AM typing results presented the same single male profile from all semen samples. The perpetrator profile was sent to the criminal DNA Database lab to be searched. On February 8, 2019, 08:15 the Israeli Criminal DNA Database lab (Forensic Science Divisionn, Israel Police Headquarters) announced a cold hit. On February 8, 2019, 19.15 the suspect, Arafat Irafaiya, was arrested by the Israeli security forces in Ramallah. Irafaiya had a terrorist background and had spent time in an Israeli prison before the attack. Irafaiya admitted to raping and murdering Ori, saying that "I entered Israel with a knife because I wanted to become a martyr and murder someone from Israel, I met the girl by chance".

Additional Information:

The suspect entered into Israel from Palestine for the sole purpose of killing an Israeli. He apparently crossed into Israel, sprinted to avoid security camera detection, and went to the first victim he could find. The case has a judicially deemed nationalist/terroristic element to it. Suspect had a history of interaction with Israeli police, having served in prison twice.

Links to Media Coverage:

https://en.wikipedia.org/wiki/Murder_of_Ori_Ansbacher https://www.timesofisrael.com/ori-ansbacher-19-named-as-jerusalem-murdervictim/ https://www.timesofisrael.com/suspect-in-murder-of-teen-i-wanted-to-kill-a-jewand-be-a-martyr-report/ https://www.haaretz.co.il/news/law/1.6917466 https://www.mako.co.il/news-law/crime-q1_2019/Articleadae2f0c1bdc861004.htm

https://www.ynet.co.il/articles/0,7340,L-5464875,00.html

4. DNA Exonerates and Implicates in One Fell Swoop

Name of Submitter: Anne Marie Schubert

Agency: El Dorado County District Attorney's Office

Location: El Dorado Hills, California

Date of Crime: 1985 (goes cold); 1999 (investigation re-opened)

Date of Hit: 2019 (exoneration match) and 2020 (new suspect match)

<u>Executive Summary:</u> Ricky Davis's housemate is killed the day after she (housemate) moves into the house in 1985 but the case goes cold. In 1999, the case is re-opened and the original set of housemates are interrogated using techniques prone to producing false testimony. One of the housemates falsely testifies that Davis was the murderer, and on the basis of this alone he convicted and spends 14 years in prison. He maintains his innocence the entire time. Around 2016, the Santa Clara School of Law takes up his conviction challenge in conjunction with the El Dorado Hills County District Attorney's Office. Original crime scene evidence is examined for DNA evidence, leading to a profile. This profile conclusively excludes Davis and all others living at the house at the time, proving Davis' innocence. On February 13^{th,} 2020, Davis is released. Using genetic genealogy, the forensic laboratory uses the profile to compare against genetic genealogy databases, leading to a match with a Michael Green.

<u>Scientific Significance</u>: DNA match leads to the exoneration of Ricky Davis, a man currently in prison after being found guilty for the offense, and indictment of the true murderer. This is only the "second time in the United States" this has happened.

<u>Investigative Significance:</u> California's standard of proof in examining new evidence post-conviction was changed from an extremely high standard of "point unerringly to innocence" to a standard common to 43 other states. This, coupled with the new DNA evidence, helped lead to Davis' release and finding of innocence.

Facts (As Written by the Northern California Innocence Project, Santa Clara Law School):

"On July 7, 1985, 55-year old Jane Hylton was found murdered in a home in El Dorado Hills, CA. The home belonged to Hylton's employer Wilma Klein and was occupied by Klein's grown daughter, Maureen, Klein's grandson, 20-year-old Ricky Davis, his then girlfriend 19-year-old Connie Dahl, the victim, and the victim's 13-year-old daughter. One day prior to the murder, Hylton, moved into the Klein home because Hylton was having problems with her husband and wanted to move out. Klein welcomed Hylton and her daughter to live in the home.

In the early morning hours of July 7, 1985, the El Dorado County Sheriff's Department responded to a 911 call reporting a homicide from the Klein home. When deputies arrived, Davis, Dahl, and Hylton's daughter were all present, and Davis directed deputies to Hylton's body in the upstairs master bedroom.

Davis and Dahl told detectives they had gone to a party the night before and returned home at 3:30 a.m. where they found Hylton's daughter waiting outside. She told them that she had gone out with a group of boys that night and was afraid her mother would be upset with her for being out too late. The three entered the house together. Davis saw blood in the hallway outside the master bedroom and found Hylton's body on the bed. Davis and Dahl immediately called 911 to report the crime.

All three maintained they were not involved in the murder and did not know who committed the crime. Hylton's husband was questioned and he denied any involvement, and was later cleared as a suspect. With no further leads in the case, the investigation into Hylton's murder went cold.

Fourteen years later, in November 1999, cold case detectives reopened the case and sought out Dahl for questioning. The detectives interrogated Dahl four times over the next eighteen months using techniques known to increase the chances of false confessions. Dahl ultimately changed her story for police and implicated Davis as the killer. She also implicated herself in the crime, telling the police that she bit the victim during the attack. Dahl also maintained that Hylton's daughter helped her and Davis move Hylton's body.

Based almost entirely on Dahl's testimony, Davis was convicted of seconddegree murder in August of 2005 and sentenced to 16 years to life in state

prison. Dahl received only one year in county jail for her alleged involvement in the crime. Davis always maintained his innocence.

Davis first contacted NCIP in 2006 and we began a thorough reinvestigation of the case.

With the cooperation of the El Dorado County District Attorney's office, NCIP obtained post-conviction DNA testing on a number of pieces of evidence at the crime scene, including Hylton's nightgown and biological material from under Hylton's fingernails. DNA test results revealed an unknown male DNA profile on the nightgown in the area of the bite mark and a consistent male DNA profile under the victim's fingernails. The test results excluded Davis, Dahl, and Hylton's daughter as the sources of the DNA. The unknown male DNA profile found on the nightgown indicated that Dahl did not bite the victim, contrary to her testimony at trial.

With this new evidence, NCIP filed a petition for writ of habeas corpus in the El Dorado County Superior Court on Davis' behalf in October of 2016. In January of 2017, the court issued an order to show cause and an evidentiary hearing was ordered for mid- 2018. NCIP successfully argued that had the original jury heard the DNA results, it would have likely reached a different outcome. It was a key moment because until January 2017, the California standard required that new evidence "point unerringly to innocence"— then the highest hurdle in the country and a nearly unattainable standard. In 2016, NCIP co-sponsored Senate Bill 1134 championed by former California State Senator Mark Leno, to put California's standard in line with that of 43 other states. The Bill, which passed in January 2017, allowed wrongfully convicted inmates like Davis to instead prove that the new evidence would likely have been compelling to a jury.

On April 15, 2019, the Honorable Judge Kenneth Melikian reversed Davis' 2005 murder conviction. The El Dorado County District Attorney intended to retry Davis for murder.

On February 13, 2020, the El Dorado County District Attorney Vern Pierson called a press conference to announce major developments in Davis' case. Prior to the press conference, Pierson filed a motion to dismiss all charges against Davis and ask for a finding of factual innocence. El Dorado County Superior Court Judge Kenneth Melikian granted the request.

At the press conference, Pierson announced that the El Dorado County District Attorney's Office and law enforcement partnered with the Sacramento County Crime Lab to do extensive reinvestigation of the case and used genetic genealogy to identify a new suspect and exonerate Davis. Pierson said, "I can tell you with all confidence, he (Davis) did not commit this crime. He is not responsible for it. I'm not telling you we can't prove it, I'm telling you he didn't do it."" Later that day, Davis was released from custody."

Links to Media Sources:

https://sacramento.cbslocal.com/2020/02/13/ricky-davis-exonerated-janehylton-1985-murder-genetic-genealogy/ http://ncip.org/ricky-davis/ https://www.mtdemocrat.com/news/courtroom-stunner-man-declaredinnocent-of-1985-murder/ https://www.kiro7.com/news/trending/california-man-cleared-murder-bygenetic-genealogy-after-15-years-prison-new-suspectcharged/IAOFAYHAQJCZZALDPX5BZDZ4YU/

5. The Little Martyr of the A10 Highway

Name of Submitter: Marie-Gaëlle Le Pajolec

Agency: Genetic Institute of Atlantic Nantes

Location: Blois, France

Date of Crime: 1987

Date of Hit: 2017

<u>Executive Summary:</u> A child's body is found on the side of the road with signs of abuse, human bite marks, burns, wrapped in a blanket, and dead from exhaustion/exposure. At the time of discovery, investigators believed the case could even be cannibalism. For over 25 years, investigators searched for her identity. In 1993 her body was exhumed and DNA profile extracted in an effort to use emerging DNA identification to develop investigative leads. In 2008, a phenotype analysis revealed North African ancestry. In addition, her parent's DNA profiles were found in the original evidence but yielded no match in the database. In 2013, her siblings' DNA profiles were also found on the original evidence. In 2017, the siblings' DNA profiles matched to a man arrested for assault and whose DNA profile was taken upon arrest. This is the brother of the Little Martyr, just 3-years-old at the time of his sister's death. This eventually leads investigators to arrest the parents for the suspected murder of the child.

<u>Scientific Significance</u>: Phenotyping to determine general ancestry of victim in 2008. DNA profiles of parents found on victim in 2008. DNA profiles of siblings found on victim in 2013. Match to siblings in database in 2017 to a 34-years-old man arrested for assault (the child's now adult sibling), which leads investigators to suspect the parents of having killed the child.

<u>Investigative Significance</u>: According to the case submitter, this case is considered as France's biggest investigation ever at the time. Police visited over 65,000 students and spoke to over 6,000 doctors and school assistant during the initial investigation.

Facts Written by Submitter:

This case is considered as the France's biggest ever investigation at the time.

August 11, 1987, the martyred body of a 4 years old child, beaten to death, has been found in a ditch along the A10 motorway near Blois, in France. This little girl was died from exhaustion after suffering around twenty fractures, some mutilating bites and iron burns. Her body was wrapped in a blanket. She was buried in a little village and dubbed the "Little Martyr of the A10" by the public. For over 25 years, the justice tried to give a name to this child, taking care not to exceed the prescription date. The investigators made inquiries in 66 000 students and questioned 6000 medical doctors, the girl's photograph being circulated in public places and alerts sent to more than 30 countries, vainly. In 1993, her body was exhumed to perform a new autopsy. Her DNA profile was determined and in 2008, a study of bio-geographic ancestry SNP markers indicated that she was probably originated from North Africa. Meanwhile, many DNA investigations were performed on the youngster's clothes and on the blanket that was wrapping her body. In 2008, the genetic profiles from her both parents were identified from different samples collected on the blanket and sent to the national database, with no result.

In 2013, hoping on the progress of molecular biology techniques, the blanket was analyzed one more time and an exhaustive sampling of all the stains present on it was performed. Three new DNA profiles compatible with two brothers and one sister of the little girl were identified and sent to the national database. With unfortunately no matches.

In May 2017 under routine testing, the second profile hit to a match on the database one of this three profiles matched with the profile of a 34 years old man who was just registered in the national database for assault. He is the brother of the "Little Martyr of the A10". He was 3 years old at the time of the death of his sister.

June 12, 2018, the French gendarmerie went to the house of the suspected parents of the child. The name of this little girl was Inass Touloub. No one had worried about her disappearance for more than 30 years.

Additional Information:

Records showed that the family stopped claiming family welfare payouts for one of their seven children and a source close to the investigation said the mother had claimed the child was alive and living in Morocco. The parents had separated in 2010 and apparently the girl's father had claimed she died at the hands of her mother.

Links to Media Sources:

https://www.theguardian.com/world/2018/jun/14/dna-breakthrough-frenchchild-murder-case-a10-girl https://www.franceculture.fr/emissions/une-histoire-particuliere-un-recitdocumentaire-en-deux-parties/inass-touloub-la-petite-martyre-de-la10-22-lapetite-fille-de-suevres-0 https://crystalhorizons.nl/2018/07/07/the-unknown-little-girl-on-the-a10motorway/ https://www.youtube.com/watch?v=z6-oAGxsYeY https://www.youtube.com/watch?v=z6-oAGxsYeY https://www.youtube.com/watch?v=k3DNIx_LRrI https://www.dailymotion.com/video/x7b2j6n https://www.youtube.com/watch?v=k3DNIx_LRrI https://www.youtube.com/watch?v=k3DNIx_LRrI https://www.youtube.com/watch?v=k3DNIx_LRrI https://www.youtube.com/watch?v=k3DNIx_LRrI

<u>Addendum</u>

In 1987, the little victim had been buried anonymously in the cemetery of Suèvres (Loir-et-Cher) near the scene of the discovery of her body. Her tomb was regularly flowered by the inhabitants of the commune and donations were regularly given to maintain the grave. On the funeral monument was engraved a simple inscription meaning : "Here lies an angel". Since the resolution of this tragic enigma in 2018, new donations have arrived. A local funeral company built a new burial with a tombstone mentioning her first name, Inass, her date of birth, July 3, 1983, and the date of her macabre discovered, August 11, 1987

The investigators discovered that the little girl had an administrative existence : Inass had a passport, was registered with the Family Allowances Fund and was even inscribed in a nursery school. But in the end, she never went to school, explaining why the research launched in 1987 in nearly 66,000 schools never yielded anything (to explain her disappearance, her parents claimed she had officially left to live by her grandmother in Morocco).

When they were arrested, Inass's parents were divorced. Inass's mother, aged 64, began by telling that her daughter was not dead, that she was living in Morocco, before admitting the reality of DNA tests. Neither parent assume being the perpetrator of the violence that resulted in Inass' death. Both said they had been spousal assault victims...

Inass was the third of the siblings. She had two older sisters, born in 1978 and in 1981, and four younger brothers. The older sister, who was nine at the time of the facts, was heard by the investigators but explained, in tears, that she cannot remember anything...

This case is a model case, that has crossed generations of investigators. The work of the entire chain of investigation has been without fault, particularly those of the investigators who, in 1987, discovered the body and collected the evidence, while DNA testing was not yet known. This proves that one should never lose hope to solve so named "cold cases".

6. Impius Operation

Submitter of Case: Mariana Flavia da Mota

Agency: Forensic DNA Laboratory - Scientific Police (Goias, Brazil)

Location: Goias, Brazil

Date of Crime: 2008 - 2019 (serial rapes)

Date of Hit: 2018 - 2019

<u>Executive Summary</u>: In October of 2018, the State of Goias Forensic DNA Laboratory reported five DNA hits to rape cases. In April 2019, another four DNA hits matched to rape cases, all pointing to one suspect for all cases. Encouraged by this evidence, local police undertake an operation called "Impius Operation" to find the rapist. Within 45 days, the number of cases connected to the one suspect increase to 22. Using this information and some investigative work, police locate the man and arrest him. By the end of the investigation 31 cases were connected to this one man, all linked via DNA in the Brazilian DNA database system.

<u>Scientific Significance</u>: Rape Kit Backlog Testing initiative in Brazil leads to the connection of these seemingly unconnected rapes to one man.

Investigative Significance: "The largest and most striking case of serial rapes in Goias, Brazil." One of the biggest cases of serial rapes in Brazil, solved via DNA.

Facts Written by Submitter:

In October, 2018 CODIS of Goias state (Brazil) reported five forensic hits related to rape cases. All cases were reported in the same region near the metropolitan area of the capital Goiania. In possession of this hits, the local CODIS Administrator informed the Superintendent of the state's forensic unit (Policia Cientifica) and the state investigative police (Policia Civil) in order to coordinate the work among the authorities involved. Due to the Goias Forensic DNA Laboratory's project to process backlog samples of sexual assault and the implementation of investigative changes triggered by the initial genetic data, in April 2019 CODIS have reported four additional hits, totaling nine cases. Once again, the CODIS Administrator brought these new hits to the authorities ' attention. At this time, the new Superintendent of the Policia Cientifica and the Policia Civil started a task force, called "Impius operation" to find the rapist and more victims. Authorities spent 45 days in this operation, with more than 40 police officers dedicated to it. During this period, dozens of new cases were sent to the Forensic DNA Laboratory for processing and, in September 2019 the number of cases with the same male DNA profile increased to 22. All victims have reported similar "modus operandi" and physical attributes of the offender. As a result of the Impius operation, the offender was arrested in 09/12/2019. The Forensic DNA Laboratory collected a DNA sample from the arrestee and his genetic profile matched those of all the kits collected from the alleged victims.

The rapes occurred between 2008 and 2019, excluding the period between 2011 and 2014, when the offender was arrested due to three homicides committed in another state (Mato Grosso). After escaping prison, he then returned to Goias where he continued practicing robberies and rapes. The offender always approached the victims riding a black or red motorcycle. He never removed his helmet and always used a real or a fake gun to steal the victims cell phone and coerce the victims to a remote place where rapes occurred. By March, 2020 the Forensic DNA Laboratory had confirmed 31 victims raped by this offender. This is by far the largest serial rapist case in Goias and one of the biggest ever brought to justice in Brazil. Due to the fact that the offender has been convicted for homicides in Mato Grosso, we have uploaded his genetic profile to CODIS. And thanks to an ongoing task force to process thousands of rape kits across Brazil, as a priority of Brazil's Federal Government, we can solve even more cases that might be related to this criminal. This case is unique due to the disturbing number of women raped and because without CODIS probably many of these crimes would have never been brought to light.

Links to Media Coverage:

https://hotinfonow.com/brazileng/suspect-of-serial-rape-arrested-in-goias/ https://diaonline.com.br/2019/09/19/dna-comprova-que-acusado-cometeu-22estupros-entre-2008-e-2019-em-goias/ https://www.jornalopcao.com.br/assunto/operacao-impius/ https://g1.globo.com/go/goias/noticia/2019/09/19/homem-considerado-omaior-estuprador-em-serie-de-goias-e-preso-suspeito-de-47-abusos.ghtml

http://noticiasgoias.com.br/noticia/titulo?titulo=pol-cia-civil-prende-o-maiorestuprador-em-s-rie-de-goi-s&id=1198

https://jornaldebrasilia.com.br/nahorah/homem-considerado-estuprador-emserie-e-preso/

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https://portalcontexto.com/policia-civil-prende-o-maior-estuprador-em-serie-degoias/

http://www.jornalpopulacional.com.br/noticia/10513-policia-civil-prende-

homem-suspeito-de-ser-o-maior-estuprador-em-serie-de-goias.html

https://www.otempo.com.br/brasil/delegado-diz-que-suspeito-de-47-estuprosconsidera-que-mulher-e-inferior-1.2239228

7. The Neo-Nazi and a Political Assassination

Name of Submitter: Dr. Harald Schneider

Agency: Hesse State Police

Location: Hesse, Germany

Date of Crime: 1993

Date of Hit: 2019

<u>Executive Summary</u>: A pro-refugee politician in Germany named Walter Lübucke is assassinated in his own home by a neo-Nazi after a speech of the politician publicly supporting refugee camps goes viral. Suicide was at first considered, but Germany's esteemed Wiesbaden Forensic DNA Analysis Unit took up the case. Using a special "homemade" technique, analysts recovered skin cells shed off of the politician's clothes and from one "single skin scale" a DNA profile was developed. This led to an immediate match to Germany's national DNA database to a neo-Nazi well-known to local police with a history of violence.

<u>Scientific Significance</u>: The forensic DNA laboratory used a "homemade" DNA sample recovery technique that involving extracting DNA from one single skin scale.

<u>Investigative Significance</u>: Major assassination of a popular German political figure and the accompanying case to solve the crime using DNA; involved novel/advanced DNA extraction technique potentially unique to Germany; received significant international attention.

<u>Other</u>: This case revolves around the European migrant crisis in 2015 in Germany. Walter Lübucke supported German Chancellor Angela Merkel's refugee policy. As a regional politician, Lübucke had a reputation of going small towns in his area to support and explain Merkel's pro-refugee policy. These public displays of prorefugee policy quickly attracted negative attention from pro-Nazi sectors within Germany, with many calling for his death.

Facts Written by Submitter:

On June 2, 2019, Walter Lübcke, 65, a popular politician and member of the Christian Democratic Union (CDU, a major German political party) in Hessen, Germany was fatally shot in the head while sitting on the terrace of his home. Since no weapon could be found, investigators ruled out a suicide and focused instead on a personal motive for the killing, or more likely a political motive. For what reason? In 2015, Mr. Lübcke had become an extreme right-wing hate figure when a video of him was uploaded to YouTube

(<u>https://www.youtube.com/watch?v=KdnLSC2hy9E</u>).

The YouTube clip showed Mr. Lübcke speaking to an audience during a discussion about establishing a new refugee camp. Lübcke stated, "You have to stand up for values, and anyone who does not accept these values is free to leave this country". The speech was seized on by opponents of the German immigration policy and circulated widely among neo-Nazi followers. Following circulation of the YouTube video, Lübcke received hundreds of hate emails, including multiple death threats.

Immediately after the crime was committed, our Forensic DNA-Unit in Wiesbaden started the forensic investigation. As in hundreds of similar violent felonies, our investigative strategy focused on the well-known Locard's Principle that, "every contact leaves a trace". Consequently, the possible transfer of DNA from the hands of the offender to the victim's clothing was the most obvious target to start searching for transferred skin flakes. By using our unique homemade method of targeted screening for shed cells recovered from tapings of the victim's clothing, we were able to generate a case relevant DNA profile from only one out of approx. 1000 samples analyzed. The DNA profile was developed from a single skin scale and did not originate from the victim, his relatives, or his known acquaintances. Searching the DNA profile in the German National DNA Database on June 14, 2019, resulted in a "Cold Hit" DNA match to a German citizen. The suspect, 45-year-old!

Stephan E. had a history of violence and was well-known to the authorities. He circulated in a neo-Nazi party and almost stabbed an immigrant in 1992. He had spent several years in prison after an attempted bombing and is said to have owned a variety of weapons even then, including a machine gun and the .38 caliber handgun used in the murder of Walter Lübcke. This unique political murder appears to be Germany's first extreme right-wing political assassination since 1945 and the identification of the suspected perpetrator was widely publicized. The both national and international attention that the DNA hit

received gives us an idea of the outstanding importance of this special analysis technique, which in this admittedly special case led to the identification of a hitherto completely unknown extreme right-wing perpetrator group and, in addition, could possibly prevent further political assassinations.

Links to Media Coverage:

https://www.youtube.com/watch?v=KdnLSC2hy9E

Walter Lübcke informed the local audience about a planned new refugee camp one day before 800 immigrants will arrive.

https://www.theguardian.com/world/2019/jun/26/far-right-suspect-confessesto-killing-german-politician-walter-lubcke

https://www.telegraph.co.uk/news/2019/06/03/cdu-mayor-german-town-kasselfound-dead-bullet-wound/

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https://www.telegraph.co.uk/news/2019/06/22/germany-vows-action-againstfar-right-terrorism-arrest-neo-nazi/

https://www.telegraph.co.uk/news/2020/01/22/suspect-murder-germanpolitician-afd-campaign-volunteer/

https://www.nytimes.com/2019/06/17/world/europe/germany-terrorism-walterlubcke.html

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<u>Addendum</u>

Dr. Harald Schneider: I had already mentioned in my application that this really outstanding murder case has attracted considerable media attention both nationally and internationally in recent months, and that the press is still busy almost every week.

On the one hand, this has to do with the special DNA analysis technique we use, and on the other hand with the person of the suspected perpetrator, Stephan E. The investigators have in the meantime gained a multitude of new insights into this person's right-wing extremist connections, right up to the so-called NSU group

Perhaps I should also mention that our DNA laboratory has in the meantime also been able to provide a clue to the perpetration of Stephan E. in connection with an attempted murder of a 22-year-old Iraqi refugee. The man was on foot in January 2016 when a cyclist approached from behind and stabbed him in the back with a knife. The victim survived severely injured.

The press writes about this case:

"The extension of the indictment to include the attempted murder of the Iraqi refugee was only possible now <u>because after four years, DNA traces of the victim</u> <u>could still be found on a knife</u> belonging to Stephan E. Comparable to the DNA investigations in the Lübcke murder case, this is once again a <u>"forensic</u> <u>masterpiece"</u> of the famous Wiesbaden specialists, said an investigator.".

Links:

<u>https://www.wsws.org/en/articles/2020/01/21/lubc-j21.html</u> New links found between Lübcke murder, neo-fascist NSU and the secret service

<u>https://www.sueddeutsche.de/politik/luebcke-rechtsextremismus-iraker-attentat-</u> <u>1.4857680</u> Suspected Lübcke assassin allegedly stabbed Iraqis

8. A Small Village in Poland - The Power of the Prüm Treaty

Name of Submitter: Anna Jurga

Agency: Central Forensic Laboratory of the Police, Poland

Location: Poland

Date of Crime: 2009

Date of Hit: 2013

<u>Executive Summary</u>: A young girl is raped in 2009 and a DNA profile is recovered. But there is no match in the Polish database. In 2013, Germany and Poland started sharing DNA under the Prüm treaty and the 2009 rape in Poland led to a match with a sexual assault case with similar modus operandi in Germany committed in 1997. Then in 2017, two additional matches were generated, one with a sexual assault case in the Czech Republic and one with a vehicle theft crime in Germany. Using this evidence, police are able to connect these crimes down to one suspect and eventually arrest him in 2019.

<u>Scientific Significance</u>: This case shows the power of the Prüm treaty; crimes committed in Germany, Poland, and the Czech Republic without apparent connection separated by time were connected when profiles were compared via Prüm.

<u>Investigative Significance</u>: Transnational crime fighting efforts within Europe, empowered by forensic DNA and the Prüm treaty.

Facts by Written Submitter:

In June 2009 young girl 13-year-old was raped by unknown offender in small village in Poland. The man dragged her into the bushes. He threatened and used violence on his victims. The DNA profile was registered in Polish DNA database but there was no match.

In May 2013 Poland and Germany started the international exchange under the Prüm Treaty. The match was reported between Polish stain and German stain registered to sex assault case. Rape committed on a 15-year-old girl on June 1997
in German city. Modus operandi was similar as in Polish case. The offender dragged victim aside, used violence and raped.

Another 2 matches were generated in 2017. First one with Czech stain registered also to sexual assault case. Second one with German stain registered to investigation against a mobile crime group for committing motor vehicle thefts. The suspects fled and left vehicle on crime scene. Due to this fact unknown forensic and fingerprints of Polish citizen was seized. After that stains seized to vehicle thefts were connected to stains seized to sexual assaults. Due to further investigation suspect was detained and accused rapes on minors in 2019.

<u>Links:</u>

https://gazetawroclawska.pl/zgwalcil-dwie-13latki-prawie-10-lat-temu-w-koncuwpadl-dzieki-analizie-dna/ar/13519148

<u>Addendum -</u>

https://www.jelonka.com/zgwalcil-13-latke-szuka-go-policja-i-prokuratura-22968

https://gazetawroclawska.pl/zgwalcil-dwie-13latki-prawie-10-lat-temu-w-koncuwpadl-dzieki-analizie-dna/ar/13519148

https://istotne.pl/boleslawiec/wiadomosc/Xu5/10-lat-temu-zgwalcil-dwienieletnie-w-naszym-powiecie-seryjny-zboczeniec-skazany

https://wiadomosci.gazeta.pl/wiadomosci/7,114883,23962072,podejrzany-o-gwalt-na-dwoch-13-latkach-zostal-zatrzymany-po.html

9. Volcano of Fire (Volcán de Fuego)

Name of Submitter: Nancy Rebeca Say Rodriguez

Agency: INACIF, National Institute of Forensic Sciences

Location: Chimaltenango, Guatemala

Date of Death/Disaster: 2018

Date of Hits: 2018 - 2019

<u>Executive Summary:</u> On Sunday June 3rd, 2018 in Guatemala, the volcano "Volcán de fuego" (Volcano of Fire) erupted. Entire families were immediately buried and killed as the eruption ripped across the surrounding areas that consisted largely of villages, hamlets, and colonies. 300 people were killed, several wounded, and nearly 2,000 thousand people evacuated. The explosion was so strong that ash reach places in Mexico, Honduras, and El Salvador. On the same day as the explosion, a massive humanitarian identification effort went underway, led in part by Guatemala's national forensic laboratory, INACIF, and with the help of the University of North Texas Center for Human Identification.

<u>Scientific Significance</u>: Using Guatemala's new national DNA database and CODIS, INACIF uses DNA to develop a mini database of unidentified human remains of those who perished in the Volcano of Fire eruption, which killed over 300 people.

<u>Investigative Significance</u>: Efforts to identify human remains began on the same day as the eruption and were initially hampered by the hot temperatures of the still fresh eruption, ash, and lava (pyroclastic flow).

Facts Written by Submitter:

On Sunday, June 3, 2018, the eruption of the Volcán de Fuego occurred, located on the departmental boundaries of Chimaltenango, Escuintla and Sacatepéquez in Guatemala. The eruption killed at least 300 people, several wounded and nearly two thousand people evacuated. Various villages, hamlets and colonies were buried by pyroclastic flows and there was falling ash throughout the country that even reached some places in Mexico, Honduras and El Salvador; it has been estimated that about 1.7 million people were affected by the eruption. Entire families were buried and died simultaneously, as the eruption swept through entire colonies and in some cases there was only one survivor per family.

The rescue work began on the same day as the eruption and were very difficult to carry out due to the high temperature, the presence of gases and the chemicals generated by the eruption. Bodies that were rescued were no longer complete due to environmental conditions. By the second day of the rescue efforts, there were already a large number of bodies burned and extremely burned so it was necessary to initiate the identification of the victims through genetic analysis.

Samples of skeletal remains were collected for approximately 3 months at the site of the eruption where, following the forensic and anthropological medical analysis, a total of 380 samples of skeletal remains and 169 samples of relatives of missing persons were analyzed by the DNA Forensics Lab of INACIF. We obtained 128 genetic profiles of the skeletal remains and for 200 samples it was not possible to obtain genetic profiles due to the high level of degradation.

The search for matches between corpses and relatives of missing persons was carried out entirely through CODIS, where we obtained matches between corpses that belong to the same family and we also obtained matches between some corpses and some alive relatives. One of the most shocking cases of this catastrophic event is the case of the Pamal family, from which 50 individuals died and only one person was a survivor and in this particular case we identified at least 15 members of the family. Finally, 60 people were successfully identified through genetic testing and all the searches were conducted in the National Genetic Data Bank.

This case was of great impact to the whole country and constitutes the first case of a mass disasters that was analyzed entirety within the National Genetic Database through the CODIS software.

Additional Information:

This eruption is classified as the largest of the Fuego Volcano since <u>the one</u> that occurred in 1974.

Links to Media Coverage:

https://edition.cnn.com/2018/06/05/americas/guatemala-volcano-eruptionfuego/index.html

https://edition.cnn.com/2018/06/03/americas/guatemala-fuego-volcanoerupts/index.html

https://elpais.com/internacional/2018/06/04/actualidad/1528071667 196341.ht ml

https://es.wikipedia.org/wiki/Erupción del volcán de Fuego de 2018

https://www.youtube.com/watch?v=x-hNtCZ1cw0

https://republica.gt/2018/06/03/volcan-de-fuego-entra-en-erupcion/

<u>Addendum</u>

June 3: eruption day

On Sunday, June 3 at approximately 11:00 in the morning, a huge eruption of the Volcán de Fuego occurred. It is worth mentioning that as it was a day of rest, many people were at home. This eruption completely devastated the La Reunion Country Club and the San Miguel Los Lotes village. 3,265 people were evacuated and 1.7 million people were affected by the disaster.





First responses

Work groups were immediately organized to rescue possible survivors in areas buried by volcanic material. Very few people were rescued alive due to the extremely adverse conditions there. A temporary morgue was set up nearby and approximately 12 hours after the event, bodies in very poor condition were found, most of them dismembered and charred, making the identification task much more complex. Forensic doctors, anthropologists, forensic technicians, lophoscopists, dentists, geneticists, first responders, and various international organizations supported the inmediate responses.

Human identification

Some bodies were identified by fingerprints in the first hours of the event. However, the bodies recovered after 12-24 hours after the eruption could no longer be identified by fingerprints or other methods. Therefore, starting on the second day of the eruption, the collection of genetic samples of corpses

for analysis began, as well as the collection of samples from relatives of the disappeared and, very importantly, we began to obtain ante-mortem and postmortem data. A multidisciplinary team undertook the selection of samples for genetic analysis. Many of the samples that were sent for genetic analysis corresponded to scattered human remains.





Genetic analysisGenetic analysis began on the fourth day of the eruption. Genetic profiles
were obtained from samples of relatives of missing persons, as well as
samples of corpses and human remains. 99% of the samples from corpses
and human remains corresponded to bone remains due to the state of
decomposition and degradation.

The analyzed samples of the corpses and human remains recovered in the first week post-eruption gave complete genetic profiles. The genetic profiles of the human remains samples recovered during the second and third weeks already showed a high degree of degradation, resulting in partial genetic

profiles. The samples of human remains collected approximately 4-6 weeks after the event were so degraded that it was not possible to obtain a genetic profile. For some samples of human remains recovered after 6 weeks of the event, complete and partial genetic profiles were obtained; This could have happened due to the fact that the recovery sites for human remains were different, some of the sites were in better condition than others (for example, some sites had not been completely buried so they had less volcanic material).

In total 380 samples of corpses and human remains were analyzed as follows:

• Analysis by STR's (GlobalfilerTM Casework Kit): 380 samples of which 128 were able to obtain complete and / or partial profiles.

• Analysis by insertions-deletions (Innotyper® kit): we tested 50 samples from which no STR profile was obtained. No profile was obtained for these samples.

Mitochondrial DNA analysis was not performed because this technology was not available in the laboratory at that time.

CODIS analysisThe comparison between genetic profiles of missing persons and their
relatives was carried out through CODIS. For this, it was necessary to create
a database for this mass disaster, specific Indexes and Specimen Cataegories
were created for this purpose only.

Match searches were performed using the Searcher and the Shared Allele options. In the case of the Searcher option, we use the stringency as follows:

• Medium Stringency: to establish uniprocedence between various human remains.

• Shared Allele: to establish matches between two samples, through this tool we established maternity, paternity and sibling relationships. All the matches detected were statistically analyzed using the Popstats option.

Previously it was mentioned that the day of the eruption was a Sunday, which is why entire families were resting and died simultaneously. This situation was of utmost importance and added complexity to CODIS searches, since many of the matches found occurred among corpses.

For example, in the case of a family, 50 of its members died simultaneously and the sample of a single survivor and family member was available for genetic identification, so the majority of matches found for this family were between samples of human remains.

Due to the situation described above, it was necessary to use all the available post-mortem and ante-mortem information in order to identify each person; A genealogical tree per family was generated and once the largest number of people belonging to the same family was detected, identification could be achieved through a living family member.

In some cases, there was no sample of a living family member, since the entire family died, so the genetic matches occurred between human remains and genealogical trees of association were generated between individuals, without being able to determine to which specific family they belonged to.

 Results
 It was possible to obtain 128 useful genetic profiles to carry out genetic comparisons. Genetic profiles for more than 200 samples were not obtained due to the high degradation rate.

Approximately 176 people were fully identified. Many human remains could not be identified by any scientific method.

The official estimate of missing persons is 300, while some nongovernmental organizations estimate that the actual number of missing persons ranges between 4000-5000 people.

Government authorities decided to suspend the human remains recovery work in September 2018, and resumed in December 2019 as part of a new identification project.

10. Mother-Daughter Double Homicide – China's national Y-STR Database

Submitter of Case: Quyi Xu

Agency: Forensic Science Institute of Guangzhou Public Security Bureau

Location: Tianhe, Guanzhou, China

Date of Crime: 2008

Date of Hit: 2019

<u>Executive Summary:</u> In 2008, a mother-daughter double homicide occurred in Guangzhou. Two different male individuals left limited blood stain evidence at the crime scene. Two DNA profiles were developed from the blood stain evidence, but there was no match in the database and the case went cold. In 2019, one of the suspect's DNA profile received a 22 Y-STR genotype hit with a convicted burglar from China's Y-STR DNA database. Using this familial match, police determine one of the suspect's identity. They further determined he worked and lived abroad in Malaysia. Police monitored his flight plans and intercepted him upon return to China. He was arrested at the airport and confessed to the crime and his partner's identity.

<u>Scientific Significance:</u> Strong use of China's national Y-STR database. Match came from the suspect's relative being entered into the national Y-STR database for an unrelated case (burglary). After analyzing the whole family, investigators were able to confirm suspect's biological mother and "speculate" about the biological father's identity. Unfortunately, the possible biological father passed away years ago, and investigators had to work backwards to determine possible genotypes based on the half-siblings. The police department had to sift through 9 male relatives and 2 female relatives in the family across half of the country in 11 years.

<u>Investigative Significance</u>: Suspects cleaned the crime scene and left very little evidence after having committed the murder. Investigators found a drop of blood on one victim's foot and got a hit in the database to one of the suspect's relatives.

Other: The mother in this case was a "famous social figure".

Facts Written by Submitter:

On X, 2008, a double homicide of mother and daughter occurred in Tianhe District, Guangzhou, China. The mother was a famous social figure and the daughter was a medical school student at her age of 20. Both of them were brutally murdered with a knife and the crime scene was cleaned by the suspect afterwards. After crime scene investigation, forensic experts confirmed two suspects were involved, which two male individuals were detected through DNA examination of the blood stains obtained from the crime scene. Blood stain contributor A left multiple blood stain at the crime scene, but suspect B left only a drop of blood on the younger victim's foot. Unfortunately, none of the blood stain found a DNA match and the case went unsolved for 11 years.

In 2019, suspect B's DNA matched to DNA evidence for an unrelated case from the National Y-STR database. According to the examination of physical evidence, 22 Y-STR got a hit with a burglary ex-con named Jun, who is from Hunan Province. The examination was extended to 59 Y-STR and investigators still found a match between suspect B and Jun, thus confirming the patrilineal family. However, the autosomal STR suggested that suspect B and Jun were not identical. Local police department confirmed Jun is the only son of his parents, which lead us to sample and inspect Jun's family for more male relatives, including Jun's father, 3 paternal male cousins, and 5 uncles. According to Y-STR, we were able to identify all 9 male relatives remained in the same patrilineal family, but no autosomal genotypes match to the suspect.

Further analysis of 40 autosomal STR and ITO algorithm was conducted to calculate the probability of genetic relationship, we were able to confirm suspect B matched half-sibling relationship to all 9 male relatives and also Jun. Furthermore, we collected two female family member's DNA, which is Jun's mother named Xiu and his grandmother named Tao. The results showed suspect B has a parental relationship with Xiu but no grandmother-child relationship with Tao. Comprehensive analysis of all information above, we speculated that the suspect could have a biological relationship with Jun's grandfather Lin. Unfortunately, Lin had been dead for years. Based on the genotype of Jun's father and uncles, we worked backward to speculate on the possible genotype of Lin. Together with the known biological mother Xiu and suspect B, 35 autosomal STR loci of three people showed a trios match. In conclusion, the suspect consists a paternity relationship with Xiu and Lin as his biological parents. Further investigation confirmed that Xiu and Lin had an illegitimate child more than 30

years ago. The child was abandoned and adopted by another family and DNA information match the suspect B.

Investigation suggested that suspect B was married and worked abroad in Malaysia. Task force received his flight plan of back in Hunan and arrested him at Changsha Hunan airport. After being arrested, he made a confession of his crime and his crime partner.

Links to Media Coverage:

https://www.toutiao.com/i6783920880226402830/?tt_from=weixin&utm_campa ign=client_share&wxshare_count=2&from=groupmessage×tamp=15795104 45&app=news_article&utm_source=weixin&isappinstalled=0&utm_medium=tout iao_ios&req_id=202001201654050101290372370359BF84&group_id=678392088 0226402830&pbid=6764512989536617988 https://3w.huanqiu.com/a/340a94/9CaKrnKoZEY?agt=20&tt_from=weixin&tt_gr oup_id=6783972595382354445&utm_campaign=client_share&wxshare_count=1 &from=groupmessage×tamp=1579561561&app=news_article&utm_source =weixin&utm_medium=toutiao_ios&req_id=2020012107060101001404708011D

6B207&group id=6783972595382354445

11. 8-Year-Old Biker from Billdal

Name of Submitter: Ricky Ansell

Agency: The Swedish Police Authority

Location: Billdal, Sweden

Date of Crime: 1995

Date of Hit: 2019

Executive Summary:

A young girl is violently sexually assaulted in 1995 in Sweden. Investigators are able to extract some DNA from semen on the girl's clothes (although technical limitations of the time limited how much DNA could be extracted, especially from the vaginal swabs). But the profile is not entered into Sweden's DNA database until 2000, a year after the national database goes online. Hundreds of males were swabbed with no matches and no routine matches were produced in the database from all other criminal suspects over the years.

The case faced closure as the crime's statute of limitations came into effect in March 2020. But in 2019 after legislative changes in Sweden allowed familial matching, this case was among the first 5 submitted for analysis. Forensic investigators quickly learn that the suspect's DNA is related to the victim, pointing towards a relative of the young girl. The relative was brought in for questioning and was swabbed for DNA. This led to a match to the semen on the girl's clothes. Using modern techniques, the original crime scene evidence was reexamined for DNA (in particular the vaginal swabs) leading to a new DNA profile and subsequent match with the relative providing further confirmation. The relative denied his involvement.

<u>Scientific Significance</u>: Familial matching and modern DNA analysis techniques the original DNA evidence leads to a match with a relative of the girl.

<u>Investigative Significance</u>: This case was cold for almost 25 years until familial searching was made legal in 2019 leading to an immediate familial match (one of the first 5 or less in Sweden).

<u>Other</u>: During the sexual assault and attack, the young girl played dead. Investigators believed this probably saved her life.

Facts Written by Submitter:

In September 1995 an eight-year-old girl was biking her way home from school, in the rural town of Billdal, when she was attacked and violated by an unknown man. He carried her and her bike to a close by grove where she was physically assaulted and raped. Pretending being dead probably saved the girls life. The girl was later found and picked up by a motorist while she was run-ning along the road partly undressed and bleeding. According to her testimony other cars had passed without stopping. The attack was brutal and she was brought to emergency medical care with serious head and genital injuries.

During forensic analysis vaginal swab samples revealed some sperm heads, but not in amounts sufficient for DNA typing with the techniques available. On her T-shirt stains of semen were found that were typed with the "Quadroplex" STR markers. The DNA profile was subsequently updated with newer STR typing kits as they emerged; "Profiler", "SGM Plus" and "ESX 16". The DNA profile was entered to the national DNA database in 2000, the year after the database started.

Years passed without law enforcement succeeding in their efforts to find the culprit. Many hundred males were swabbed and excluded not matching the DNA. Neither was a database match obtained from all other suspects of crime DNA sampled nationally throughout these years or from other European DNA databases as Sweden starting sharing DNA data through the Prüm Treaty in 2013. The case was facing permanent closure in March 2020 due to legal "period of limitation".

Following legislative changes, familial search of the national police DNA databases was allowed starting January 1st, 2019. Practical routines had been set in advance and several cases were submitted already early January. Among the first five cases requested for familial search was the "Billdal case".

The investigators received a forensic intelligence report ("forensiskt uppslag") containing ranked candidate lists for parent/child and siblings respectively.

The investigation, following the leads given in the report turned its interest to the candidate list for parent/child. This as the candidate positioned first had a father of interest to the investigation. The man was brought in for questioning and was subsequently swabbed for DNA. 24 years after the crime, a DNA match for the semen on the T-shirt could finally be reported!

As a next step, the remaining vaginal swabs were reanalyzed. With the present techniques a matching DNA profile could successfully be obtained.

Finally, he was sentenced to six years imprisonment for aggravated rape, with a sentence reduction applied because many years had passed. The court stated that eight years would have been the punishment if it had been committed in present time. The man denied committing the crime and also claimed a brain damage (medically unconfirmed) leading to memory slots.

Throughout the years, the investigation of this brutal case made use of the developments achieved in forensic DNA typing and databasing awaiting the closing match. Finally, when adding an additional forensic tool - familial search - the case could be solved and brought to justice.

Additional Information:

Upon initial contact of police with the suspect, he took his children and fled the region. When finally arrested a day later, he had thousands of dollars on him. Police believe he planned to flee the country.

Links to Media Coverage:

https://www.svt.se/nyheter/lokalt/vast/billdalsmannen-doms-till-sju-ars-fangelse

https://polisen.se/aktuellt/pressmeddelanden/2019/mars/man-misstankt-forbilldalsvaldtakten-begard-haktad/

https://www.eposten.se/nyheter/omvarld/misstankt-valdtaktsman-hittad-efter-24-ar-unt5230114.aspx

12. Cottonwood Glen Park

Submitter of Case: Carrie Davis

Agency: Colorado Bureau of Investigation; Fort Collins Police Department

Location: Fort Collins, Colorado

Date of Crime: 2013

Date of Hit: 2017

<u>Executive Summary</u>: A woman awakens after a night of drinking to having been violently sexual assaulted and beaten; she has near fatal injuries to her brain and body. She survives only to move on her with her life, moving into a home to rent where she befriends a man named Stefan Moon. Moon becomes her very close friend and helps her deal with the attack's trauma. In the meantime, Colorado police develop a DNA profile in 2013 but there were no hits in CODIS for four years. Finally, in 2017, there was state CODIS hit to Amber's perpetrator and the name shocked everyone: Stefan Moon. He was promptly arrested and convicted.

<u>Investigative Significance</u>: Suspect is matched to crime via arrestee DNA sample collection for a property crime (pawning stolen property).

<u>Other:</u> Particularly violent assault, leaving extensive brain damage, "savagely" broken jaw, near fatal injuries. Victim barely survived.

Facts Written by Submitter:

On August 31, 2013, Amber Smith awakened in a fog of excruciating pain near Cottonwood Glen Park in Fort Collins, Colorado. She was naked, bound with duct tape, and had been violently beaten and sexually assaulted. Amber's injuries were so extensive that her brain was bleeding and her jaw had been savagely broken, and she had been callously left for dead by her assailant. Forensic evidence from Amber was submitted to the Colorado Bureau of Investigation Forensic Services (CBIFS) Denver Laboratory on September 4, 2013. A DNA profile obtained from the sperm fraction of Amber's anal swabs was entered in the state and national CODIS database on September 6, 2013 where it sat, unsolved, for almost 4 years.

In the meantime, Amber tried to move on with her life. A few years after the incident, she was befriended by a kind man named Stefan Moon who rented a room in the same house as Amber. He consoled her when she confided in him and recounted the horror of her violent attack, and they became close friends.

Finally, on August 11, 2017 the CBIFS received a state CODIS hit that finally identified Amber's perpetrator. The name the Fort Collins Police Department received shocked Amber: Stefan Moon. Stefan had been arrested in Fort Collins on a felony Property Crimes/Prohibited Act Pawnbroker charge for pawning stolen property and his sample had hit against her unsolved case. She had no inkling that Stefan, her friend that she trusted and had confided in, had been the violent perpetrator that had sexually assaulted her and nearly beat her to death.

Stefan Moon was found guilty by a jury in August 2019 of two counts of sexual assault, second-degree kidnapping and first-degree assault, all felonies. The jury found Moon not guilty of felony attempted murder. The jury deliberated for less than a day after listening to six days of testimony in the trial, including expert witness testimony given by the CBIFS DNA Analyst. Moon was sentenced to 128 years to life in prison and deemed a sexually violent predator. He will remain in prison for the rest of his life.

Additional Information:

Victim had been drinking with her friends when she awoke with her hands and feet tied with duct tape.

Links to Media Coverage:

https://www.coloradoan.com/story/news/2019/08/15/man-convicted-2013sexual-assault-woman-found-naked-fort-collins-park/2020140001/

https://www.coloradoan.com/story/news/2019/10/08/stefan-mooncottonwood-glen-park-sexual-assault-kidnapping-fort-collinssentence/3911338002/

https://denver.cbslocal.com/2017/08/18/sexual-assault-fort-collins-stefan-moon/

<u>Addendum</u>

Carrie Davis: Stefan had been arrested in Fort Collins on a felony Property Crimes/Prohibited Act Pawnbroker charge for pawning stolen property. Luckily, Colorado has an arrestee law that allows for DNA to be collected from adults arrested for a felony and profiled after charges are filed. Colorado's DNA database does not have a backlog, so they were able to profile the sample instantly after charges were filed which was when his sample hit against her unsolved case.

13. Jewelry Thieves

Name of Submitter: Mark Brett

Agency: Forensic Services Metropolitan Police, London, United Kingdom

Location: London, England, United Kingdom

Date of Crime: 2019

Date of Hit: 2019

<u>Executive Summary:</u> Jewelry thieves drill through a wall into a jewelry shop to steal over \$300k worth of jewels. However, on their first attempt to drill through the wall, they drill into the wrong shop. As they back out of the hole in the wall, they leave their touch DNA behind at the scene of a burglary. Unfortunately, the thieves end up successfully drilling into the correct wall and stealing the jewels. But forensic investigators recover said DNA on the incorrect wall (among other DNA evidence on a cigarette butt left at the scene) and develop a profile, leading to an immediate match in the UK national DNA database to man currently serving time in prison. He had a European arrest warrant for similar activities in Italy, and investigations later revealed his thieving partners. They are extradited back to the United Kingdom from Romania. A jury found them guilty in 32 minutes, but the jewels were never recovered.

<u>Scientific Significance</u>: Appears to be touch DNA from suspect's attempt to pass through a hole a wall. Convicted offender DNA leads to a match with one of the suspects.

<u>Investigative Significance</u>: Ingenuity in recognizing where touch DNA might have been left on a wall during a jewelry raid. Suspects were of Romanian origin and had committed similar offenses in Italy. Two of three suspects were extradited from Romania back to the UK for trial.

Facts Written by Submitter:

Over the weekend of the 23rd - 24th March 2019, 3 suspects forced entry to a venue on Fleet Street, London. Their intention was to drill through a wall to the adjoining jewelry shop. The suspects took care to disable security systems, painting over CCTV cameras and removing security tapes. Their first attempt at entering the jewelers was unsuccessful as they had drilled through the wrong wall, entering a betting shop next door. Realizing their mistake they then continued their work, gaining entry to the jewelers and making off with approximately £300,000 worth of jewelry.

Their unsuccessful initial attempt proved successful for us. On the 25th March 2019, Forensic Practitioner Sean Davies attended the venue to carry out a forensic scene examination. Part of his examination revealed CCTV images had been captured inside the betting shop, showing one of the suspects pulling himself out of the hole, realizing their mistake before returning through the hole. After careful examination of the CCTV FP Davies was able to target his examination and swabbed areas of contact from around the hole opening. These swabs were submitted to EuroFins Laboratory and were subsequently identified on the 5th April 2019 for a Nicolae SISCO.

SISCO was in Prison and was subsequently arrested and interviewed. He gave a no comment interview but was subsequently charged and remanded back to prison. It transpired that SISCO was also wanted on a European Arrest Warrant for a similar offence in Italy. SISCO was sent for trial whereby he pleaded guilty at the first hearing and sentenced to 4 ½ years.

Enquiries revealed two further suspects who had both fled the country. They were both later found in Romania and returned to the UK. A jury took just 32 minutes to find them guilty and they were both sentenced to 6 years. The jewelry has never been recovered.

Links to Media Coverage:

Recommended Primary Source:

https://www.dailymail.co.uk/news/article-6854079/London-burglars-pull-Hatton-Garden-style-raid-upmarket-jewellers-Half-Marathon.html

https://www.standard.co.uk/news/crime/burglars-wrong-wall-bookies-fleetstreet-a4370791.html

https://www.dailymail.co.uk/news/article-8038251/Two-Romanian-burglarstunnelled-Fleet-Street-jewellers-William-Hill.html

https://www.msn.com/en-gb/news/uknews/burglars-drilled-through-wrong-wallduring-£300k-raid-on-upmarket-london-jewellers/ar-BB10mCy2

https://courtnewsuk.co.uk/six-years-for-bunglers-who-drilled-through-wrongwall/

<u>Addendum</u>

Additional Information:

This case was investigated by Scotland Yard's Flying Squad, which has investigated other high-profile burglaries such as the Hatton Garden burglary in 2015. The thieves used the noise and confusion of the London Landmarks Half Marathon to drill through the wall into the jewelry. They even painted over CCTV cameras to cover their tracks. DNA was recovered from the wall near hole was dug, on a door leading to a staircase inside the building, and a cigarette butt found outside the premises.

Inside the 'audacious' £500,000 Fleet Street heist





News Reports -

https://www.theguardian.com/uk-news/2019/mar/27/thieves-steal-500000-of-gems-from-london-jeweller-in-audacious-heist

https://www.itv.com/news/2019-03-27/upmarket-jewellers-on-half-marathonroute-targeted-by-thieves/

https://metro.co.uk/2019/03/27/daring-thieves-tunnelled-jewellers-take-1000000-diamonds-gems-9034028/

https://www.dailymail.co.uk/news/article-6854079/London-burglars-pull-Hatton-Garden-style-raid-upmarket-jewellers-Half-Marathon.html Sentencing Reports -

https://scanmail.trustwave.com/?c=10916&d=iOyi3j3PDyXrooJxhC5MXTCsar0osL hONXsNe_y8aQ&u=https%3a%2f%2fwww%2edailymail%2eco%2euk%2fnews%2f article-8069417%2fRomanian-burglars-carried-raid-Fleet-Street-jewellers-guilty-300-000-heist%2ehtml

http://news.met.police.uk/news/burglars-jailed-for-drilling-hole-into-jewellersand-stealing-300000-pounds-worth-of-goods-395964

Exhibits –

14 swabs were retrieved and submitted for analysis by FP Sean Davies. Whilst SMD/19 was the swab identified for the suspect (A mixed profile, Major Male), SMD/19 was also found to have been made by the same suspect.

Exhibit SMD/15 – Dry swab of visible contact trace marks found on the left wall of the top flight of the staircase leading from the ground floor down to the basement level of "William Hill". The marks were 144cm above the top step and 128cm from the left edge of the wall. A hole was found in this wall leading to the adjacent jewellers. This hole measured 46cm high x 83cm wide, at the widest points.

Exhibit SMD/19 – Dry swab of visible contact trace marks found on the outside surface of the door at the top of the staircase leading down to "William Hill". The marks were located 134cm above the bottom of the door and adjacent to the right opening edge.

14. "Robbery of the Century"

Submitter of Case: Ana Paula Vieira de Castro

Agency: Brazilian Federal Police

<u>Location:</u> Paraguay (location of crime); Brazil (origin of criminals and substantial portion of DNA evidence)

Date of Crime: 2017

Date of Hit: 2017

Executive Summary:

This was a military-style robbery and assault of the company Prosegur's (security and cash-protection service company) office in the Paraguayan city of Ciudad del Este (City of the East). At night, about 50-80 heavily armed robbers closed off a perimeter around the office with cars. During a three-hour assault, the small army was reportedly able to access at least one of the three vaults of the company. One police officer was killed and several were wounded. The robbers reportedly stole about USD \$8 million. Paraguayan police believed the robbers were Brazilian and had crossed the border into Paraguay to commit the crime. Brazilian federal police found a staging house across the border at Foz do Iguaçu in Brazil, where they seized six rifles, two boats, and seven vehicles. A group of the robbers were reportedly intercepted in Itaipulandia, during which a gun battle broke out and three suspects were killed and four were arrested. Paraguayan police believe a Brazilian gang called the First Capital Command (PCC) was behind the robbery.

After the whole assault ended, Paraguayan and Brazilian police were able to collect DNA from the crime scene, as well as from the staging house in Brazil. From these two sources, 47 profiles were developed and submitted to the database leading immediately to 12 matches. 14 of these profiles led to matches with unrelated crimes throughout Brazil (seven different states) committed as far back as 2012 going through 2019. One of the profiles from this robbery even matched to the murder of a federal Brazilian prison officer.

<u>Scientific Significance</u>: This crime leaves enough to DNA evidence at the crime scene and at a nearby staging house to link the suspects to many crimes throughout Brazil committed over the years.

Investigative Significance: Transnational criminal investigations of a major Brazilian gang.

<u>Other</u>: This case received major attention in Brazil and Paraguay and is deemed the "biggest heist in Paraguay's history". This robbery even has it owns Wikipedia page.

Facts Written by Submitter:

The "robbery of the century". That was how the assault to the cash-transit company PROSEGUR in Ciudad del Este, Paraguay, on April 24, 2017, became known. Burglars, heavily armed and with explosives, stole about \$ 8 million. The robbery had several developments, abandoned vehicles, escape routes towards Brazil, shootings sites, arrests of suspects and a property used as "headquarters" by the criminals.

Evidence and reference materials from suspects were collected by federal forensic experts, aiming to obtain genetic profiles to supply the National DNA Database (BNPG) for matches and eventual identification of the sources. All materials were sent to the Forensic DNA Laboratory of the Brazilian Federal Police.

In the "headquarters" alone, more than 300 evidence were collected, which resulted in 34 different genetic profiles, including 8 that matched suspects' profiles. Bags and apparel abandoned at a shooting site resulted in 4 different profiles, including 2 that matched other arrestees. Vehicles resulted in 8 different profiles. Of these, 2 matched suspects' profiles. Many identical profiles between the related locations and suspects that were pinpointed in up to 3 different sites. In all, 47 profiles were uploaded into the database, 12 of them with identified sources.

In BNPG, 14 profiles matched others from unrelated crime scenes, with 2 more individuals identified. These hits linked the assault to PROSEGUR in Paraguay to crimes in 7 different Brazilian states between 2013 and 2019.

One profile from the "headquarters" linked PROSEGUR's case to the murdering of a federal prison officer in Cascavel/PR, on September 2, 2016, and

to an ATM explosion site in Campo Grande/MS, on October 11, 2017, inspected by state forensic experts. These identical profiles have an identified source.

Another profile linked the robbery to PROSEGUR in Paraguay to a federal prison escape in São Paulo, on December 8, 2014; to an assault to the cash-transit company SERV-SAN in Teresina/PI, on December 10, 2016; and to an assault to a security van owned by the cash-transit company BRINKS in Jacareí/SP, on November 21, 2017.

Five profiles from PROSEGUR's case were connected to 3 different assaults to the cash-transit company PROTEGE. The first one on December 8, 2013, in Suzano/SP, whose source was arrested due to the assault to PROSEGUR. The second robbery took place on October 16, 2017, in Araçatuba/SP, and matched 3 unidentified profiles of PROSEGUR's case. The last one, an attempted assault, took place on January 22, 2018, in Mogi das Cruzes/SP, and whose source was arrested on the investigation of assaults to private banks in Passos/MG, on April 11, 2018. All PROTEGE crime scenes were inspected by state forensic experts.

On March 14, 2019, 3 security vans owned by BRINKS were mugged at the airport of Blumenau/SC. A profile obtained by state forensic experts matched a profile obtained at the "headquarters" of the PROSEGUR's case.

All these crimes, among others, of federal or state jurisdiction were carried out by one large gang that has been fought with the help of forensic genetics through the Brazilian National DNA Database.

Additional Information on the DNA profiles and matches from Submitter:

A total of 457 evidence were collected during the course of the investigation. After the analysis of all the materials, which demanded the dedicated and coordinated work of all the experts in the DNA laboratory of the Brazilian Federal Police, more than 580 samples were obtained, most of them in the first 10 days of analysis. In all, 45 different genetic single-source profiles and 2 genetic mixture profiles with quality for confrontations were found and uploaded to the DNA databases, 11* of them coincident with suspects arrested or killed 3 days after the robbery.

There are 4 correlated crime scenes in this case, which are:

"Headquarters"

34 profiles 7* of which matched suspects presented by the investigators

"Shooting site and escape route near Itaipu Lake"

7 profiles (4 new profiles, different from the headquarters) 5 of which matched arrestees (3 of them also found among the evidence collected from the headquarters)

"Prosegur branch office"

3 profiles (1 new)2 of which matched suspects already placed at the crime scenes described above

"Vehicles"

10 profiles (8 single-sourced and 2 mixtures) 2 of which matched other suspects at scene of crime

Total: 47 uploaded to National DNA database

11* of them with "identified sources"

Specifically, resulting in:

In National DNA Database, 14 profiles matched others from 18 unrelated crime scenes of federal or state jurisdiction. These hits linked the Prosegur heist in Paraguay directly to crimes in 7 different Brazilian states between 2013 and 2019. Leading to 3 additional individuals identified.

In particular, one profile from the "headquarters" was linked to the murder of a federal prison officer in 2016, in Paraná state, and to an ATM explosion in 2017, in Mato Grosso do Sul state. The later identified source was the leader of the execution mission of the prison officer.

Another one from the "headquarters" matched one found in a house that would have been used by members of one of the biggest criminal organizations in Brazil. That source was identified as his profile was uploaded to the National DNA Database in compliance with a Brazilian Federal Law, that provides for the criminal identification through the genetic profile by judicial authorization. This individual is the main suspect in a cargo theft of jewels with the estimated value of \$ 28 million in Guarulhos Airport-SP in 2019.

Most profiles are connected to other felonies to cash-transit companies or banks. Among them, one could be pinpointed in up to 5 different crime scenes between 2014 and 2018. The source has not yet been identified. Another profile from this assault was linked to a prison escape in São Paulo, in 2014, and to two other similar cash-transit assaults (on vehicles), in 2016 and in 2017, one in Piauí state and another one in São Paulo state.

Five profiles from the robbery to Prosegur in Paraguay were connected to 3 different assaults on the cash-transit company Protege (as opposed to Prosegur). All crimes took place in São Paulo state between 2013 and 2018. The source of the last one was arrested in the investigation of assaults to private banks in Minas Gerais state, in 2018.

In 2019, two years after the robbery, 3 security vans owned by BRINKS were mugged at an airport in Santa Catarina state and DNA recovered from the scene matched to a DNA profile obtained at "headquarters".

In the scope of this crime investigation, genetic profiles of 57 individuals were obtained. Among them, 15 had their genetic profiles uploaded to the National DNA Database in compliance to court orders, 10 of which already connected to at least one location of these events through the DNA analyzes.

Links to Media Sources:

<u>https://apcf.org.br/noticias/banco-de-dna-confirma-participacao-de-suspeito-em-assalto-a-prosegur</u> <u>https://www.foxnews.com/world/army-of-60-robbers-gets-away-with-</u>

spectacular-heist-in-paraguay

https://www.telegraph.co.uk/news/2017/04/26/paraguays-interior-ministerfires-police-chiefs-hunt-continues/

https://www.npr.org/sections/thetwo-way/2017/04/25/525584135/mega-

robbery-in-paraguay-dozens-reportedly-took-part-in-violent-heist

https://www.abc.net.au/news/2017-04-26/brazil-police-arrest-suspects-in-multimillion-dollar-heist/8471828

https://www.cnn.com/2017/04/25/americas/paraguay-vault-robbery/ https://en.wikipedia.org/wiki/2017_Ciudad_del_Este_robbery

Addendum Written by Submitter

Complementary information about the matches:

The DNA results showed that at least 47 individuals participated in the heist of the cash-transit company Prosegur in Ciudad del Este, Paraguay, on April 24, 2017, with 14 identifications based on genetic profiles, so far. This emblematic work of forensic genetics and crime scene expertise also made it possible to link this crime to robberies and murders in the states of Paraná, São Paulo, Santa Catarina, Piauí, Bahia, Minas Gerais and Mato Grosso do Sul, in locations more than 3,000 km apart, with a notable concentration of cases in the state of São Paulo (Figure 1). The analysis of the matches registered by the National DNA Database shows this criminal organization is specialized in crimes against cashtransit companies, security vans and ATMs, always using heavy weapons and explosives.



Figure 1. Crime scenes directly connected to the robbery to Prosegur in Paraguay.





Figure 1. Continuation.

A particular identification demonstrated the importance of the National DNA Database in solving crimes. One individual was arrested as one of the suspects of the crime against Prosegur in Paraguay. He did not matched profiles of the Prosegur case at first. When uploaded to the National DNA Database, his genetic profile showed a coincidence with one from an assault on the cash-transit company Protege in 2013. Due to the link of the suspect to the burglary to the Protege company's security van in 2013, and not to the crime that occurred in Paraguay in 2017, this individual was kept in custody while the investigation of the Prosegur case was still going on.

Just a few months later, when more evidence was analyzed, a match was found to connect this individual to the crime against Prosegur in Paraguay. In addition to solve a case without suspects in the state of São Paulo, if there were no DNA databases in Brazil, this suspect could have been released for lack of evidence at the beginning of the investigation.

Such results were only possible due to the proper technology and qualified personnel for the analyzes, the National DNA database and the appropriate and modern legislation in Brazil, that provides for the criminal identification through the genetic profile by judicial authorization and the mandatory sample collection from those convicted offenders of heinous crimes or committed with violence or serious threat to life. The great integration between different police forces, in addition to the judicial system, was also essential for the progress of this crime investigation.

The region where the crime occurred has a Tripartite Command, established in 1996, which formalizes cross-border police cooperation between Argentina, Brazil and Paraguay. After the crime, there was rapid articulation between the border countries through the Tripartite Command and the Paraguayan National Police requested the cooperation of the Federal Police of Brazil since evidence pointed out that one of the largest Brazilian criminal organizations was involved in the act.

This work would not have been done without the partnership of the Federal Police Technical Scientific Directorate and the Federal Police Station in Foz do Iguaçu- PR, as well as their staff. And, of course, without the hard work of the forensic experts from the Federal Police DNA Laboratory, with such dedication in analyzing the large amount of traces collected in the shortest time possible, and the Technical Scientific Unit in Foz do Iguaçu-PR, for painstaking work on crime scene forensics.

Complementary information about the event, as narrated by the leading federal investigative delegate:

In the early hours of April 24, 2017, Paraguayan citizens woke up to the noise of violent shots of firearms, including .50 caliber machine guns, by dozens of criminals who took the perimeter in the region of the company Prosegur in Ciudad Del Este, Paraguay. The thieves blocked the main access roads with burning vehicles and any attempt to approach them was rejected with several shots guided by laser sights.

The invasion of the company began, with explosions of walls and the taking of the building. After cutting a steel grid, they climbed a ladder that led to the vault room. A new explosion brought the wall down, however, the debris spread across the stairs, blocking access to the main room. The incident led to a delay of more than an hour to clear the rubble until the company's safe was finally accessed.

The criminals withdrew several pouches with values in US Dollar, Real and Guarani, the Paraguayan currency, in addition to checks totaling about \$ 11.7 million. Hours after the assault began, the group dispersed and part of it crossed the border between Paraguay and Brazil on Lake Itaipu, taking stolen valuables with it, as well as backpacks with clothing and weapons. The fleeing group encountered federal police officers and the incident dispersed them in a disorderly manner. Many criminals went into the woods and abandoned pouches with money, clothes, weapons, accessories and ammunition. Others took assault vehicles to escape.

Several criminals arrived in the urban area of the city of São Miguel do Iguaçu- PR and there were confrontations with police from security forces. Five thieves were shot and three of them died. Searches for criminals lasted three days. In the end, 8 people were arrested, including the two wounded in a shootout with the Police.

15. São Paulo's first convicted offender database - immediate matches and exonerations

Name of Submitter: Juliana Romera Mansilha Dias

Agency: DNA Laboratory, Criminalistics Institute, São Paulo Scientific Police

Location: São Paulo, Brazil

Date of Crime: 2016

Date of Hit: 2019

<u>Executive Summary:</u> A man was convicted in São Paulo for a rape committed several years ago based on false eyewitness testimony. After many years of not having convicted offender DNA profile database, São Paulo's DNA database starts entering convicted profiles. This included entering convicted offender profiles already collected into the database as well as taking new DNA samples from over 10,000 prisons in the prisons convicted of sex crimes. When a particular individual named JGPS was entered into the database, he was immediately linked to seven rapes, including the above-mentioned rape. Based largely on this DNA match, JGPS was arrested for the rape (and many more rapes) and the unfortunate man already serving jail time exonerated.

<u>Scientific Significance</u>: This case shows the power of including as many profiles in the database as possible; activation of convicted offender database leads to immediate matches and exonerations.

<u>Investigative Significance</u>: Exoneration of innocent man already serving jail time for rape; DNA links man to additional 7 rapes. This case further confirms the unreliability of eyewitness testimony – the improperly convicted man and the true perpetrator looked very similar and only DNA ended up distinguishing the two.

Other: São Paulo's convicted offender DNA database comes online.

Facts Written by Submitter:

São Paulo is the most populous State in Brazil, with more than 45 million of inhabitants. It's not a surprise that São Paulo's DNA CRIMINAL DATABASE is the biggest in Brazil; anyway, it was just in the past year that it actually started to be fed with convicted offender profiles. And through this year we already found many interesting matches, but nothing compared to what happened when A.B.S and J.G.P.S. profiles were added to the database. Both of them have been convicted of rape; anyway, A.B.S had been convicted in 2016, based on facial recognition by the victim. He had been submitted to other DNA tests before, as a suspect of rape of three other victims, but was excluded as the author and absolved – and, of course, he was not included in the database at that time. His profile was added to São Paulo's DNA database in 2019, due to the national project that reunited all Brazilian Police States, Federal Police and Brazil's Justice Ministry in order to collect, process and add to DNA database profiles of convicted offenders that were already in the penitentiary system. J.G.P.S., by his turn, was at the penitentiary convicted of one victim's rape in 2016. At the time that his profile was included to the database, no one could ever imagine what it would come next: after the first search in São Paulo's database, it pointed that J.G.P.S was the author of 7 (seven) other rapes - 3 (three) of them that once have been attributed to A.B.S., years before! The 4 (four) other cases that pointed to J.G.P.S. had remained without solution until that day... In short: with just two new convicted profiles in DNA database, São Paulo could innocent one man and solve 7 (seven) cold cases that had remained with no solution through all these years (the crimes had happened between 2012 and 2016)! It's important to observe that A.B.S. and J.G.P.S. look very alike, which corroborate with the thesis that just the facial recognition is not enough to incriminate someone – although many times our judiciary system still convict people based on this kind of evidence.

Additional Information:

The additional rapes in question were committed on six women in 2012, with one in 2014, and the last case being reported in 2016.

A.B.S. and J.G.P.S. both have very similar faces. Their haircut is also the same.

Attempting to prove the A.B.S.'s innocence, his family sold their cars, motorcycles, and a house to finance their investigation. They even had a private expert to show that the victim may have identified the wrong offender.
2020 DNA Hit of the Year

5,500 convicted offender profiles have apparently already been added to the database.

Links to Media Coverage:

https://g1.globo.com/sp/sao-paulo/noticia/2019/11/04/apos-comparar-dna-depresos-com-material-encontrado-em-vitimas-de-estupro-policia-chega-asuspeito-de-7-crimes-em-sp.ghtml

<u>Addendum</u>

https://g1.globo.com/sp/sao-paulo/noticia/2019/11/04/apos-comparar-dna-depresos-com-material-encontrado-em-vitimas-de-estupro-policia-chega-asuspeito-de-7-crimes-em-sp.ghtml

https://g1.globo.com/jornal-nacional/noticia/2019/11/04/trabalho-inedito-comdna-de-presos-ajuda-policia-de-sp-a-chegar-a-suspeito-de-estupro.ghtml

https://fontesdasnoticias.blogspot.com/2019/11/apos-comparar-dna-de-presoscom.html

16. The Deceased Rapist

Name of Submitter: Rashed Alghafri

Agency: Dubai Police

Location: Dubai, United Arab Emirates

Date of Crime: 2011

Date of Hit: 2016

<u>Executive Summary:</u> A woman was raped in 2011 by an unknown man. Several avenues of DNA analysis are exhausted, including Y-STR, mtDNA, and SnapShot analysis, and the case goes cold. In 2016, Dubai's unified DNA database comes online uniting all the local forensic DNA databases. Y-STR familial searching is undertaken on this database, eventually leading to a match with a previously convicted offender but who had by then become deceased. His personal belongings/remains were tested leading to an exact match.

<u>Scientific Significance</u>: Dubai Police employ familial matching to help solve a case. Familial testing using Y-STR and mtDNA. Comparisons against YHRD & USYSTRDATABASE.org, with no matches. Finally, when the unified Dubai database comes online and all local forensic databases are pooled into the national database, familial analysis is undertaken leading to a Y-STR match.

Investigative Significance: Mass screening of 5,711 people, with no hits.

Facts Written by Submitter:

In mid-2011, grisly rape case was reported by a woman attacked and raped by an unknown man. Investigation started with retrieving the video from the CCTV, and samples collection from the crime scene, victim's items including biological swabs, and her reference sample. Several biological examination tests made on the samples to identify the stains. Suspected semen samples confirmed using presumptive and confirmatory tests including "Acid Phosphatase Test" and "RSID[™]-Semen". The presence of sperm was confirmed using "Microscopic Analysis Test". These samples were rape-kit swabs and the stain lifted from the bed sheet. All samples extracted and identified using Identifiler STR kit. A clean single contributor profile obtained from the bed sheet sample and matched the rape-kit swabs, and searched against the local database, with no matches returned. Based on the CCTV video, it was unclear shots of the suspect's physiognomy, yet the skin color was clearly identified. Investigation extended to encounter up to 5711 suspects taken for DNA testing, with no match hit.

After reported as a cold case for several years, the case was re-examined in 2015 using Y-STR techniques. The Y-chromosome haplotype including 17 markers successfully obtained and searched against local Y-STR database and no match reported. Later, a search attempted on YHRD & USYSTRDATABASE.org, retrieving haplogroup information relative to the Arabian Peninsula Arab population. The number of suspects taken in for DNA testing was elevating, and no match reported until the end of the same year. Simultaneously, mtDNA analysis applied to the unknown sample that supported the maternal lineage of the Arabia Peninsula Arab population. In addition, the unknown sample was analyzed using SnapShot[®] technology, which showed different ethnicity than the abovementioned haplogroup. However, the skin color verified what been retrieved from the CCTV.

By late 2016, unified DNA database launched that pooled all the samples from all local forensic labs. A methodology established to support familial searches. The unknown sample searched using familial search tool and a high likelihood ratio obtained for known profile for previously convicted individual. The profile marking the likelihood ratio have been checked and reanalyzed for Y-Chromosome. Analysis arrays extended to cover 30 Y-STR markers (38 alleles). The reanalyzed sample reported 100% Y-STR match suggesting close male relative to the suspect. Investigation narrowed down and very soon, it reported that a deceased family member suspected. Surprisingly, family informed that some leftover belongings of the deceased were still in place, which then immediately sent for DNA extraction and analysis. Remarkably, the unknown sample from the crime scene, and the belongings of the deceased reported a match. Case closed in 2019.

<u>Links:</u>

https://gulfnews.com/uae/crime/dubai-rape-case-solved-after-eight-yearsthanks-to-advanced-dna-technology-1.68577106

17. Newborn Bloodspots

Submitter of Case: Carolyn Weigand

Agency: California Department of Justice

Location: Woodland, California

Date of Crime: 2007

Date of Hit: 2018

<u>Executive Summary:</u> In 2007, the remains of an infant boy were discovered in a metal chest cooler in an irrigation canal in California. The infant's remains showed evidence of blunt force trauma. A partial DNA profile was recovered from the remains, and it was uploaded to the Combined DNA Index System (CODIS) where it was regularly searched against DNA profiles from other unidentified human remains, missing persons, relatives of missing persons, and convicted offenders. For over a decade, these searches did not result in a CODIS hit or any investigative leads. In 2018, a kinship search was conducted to determine if a potential close relative of the deceased infant may be in the convicted offender database. The results of this search provided an investigative lead that led to the identity of both the deceased infant and his alleged biological father. The alleged biological father has since been charged with the murders of his deceased infant son and four of his other children.

<u>Scientific Significance</u>: This is the first time that a kinship search of unidentified human remains was undertaken in an attempt to identify a potential close relative in the convicted offender database. With the success of this case, the door is now open for other unidentified human remains cases to be investigated using this approach. Without this innovative search, the deceased infant would have never been identified, and his four siblings would have never been revealed as additional potential homicide victims.

<u>Investigative Significance</u>: Familial/kinship analysis leads to the identity of a deceased infant boy and his killer.

Facts Written by Submitter:

On March 29, 2007, a fisherman discovered the skeletonized remains of a 1-3-month-old infant boy inside a weighted metal chest cooler that had been submerged in an irrigation canal near Woodland, California. In April 2007, the remains, which were discovered wrapped in a Winnie the Pooh baby blanket, were submitted to the California Department of Justice Missing Persons DNA Program for DNA testing. The partial short tandem repeat (STR) DNA profile obtained from the infant's remains was uploaded to the Combined DNA Index System (CODIS) for searching against DNA profiles from other human remains as well as DNA profiles from missing persons, relatives of missing persons, and convicted offenders. Despite searching since 2007, no database hits or investigative leads resulted from the weekly searches of the deceased infant's profile. More than a decade after discovery of the infant's remains, kinship searching was available but additional DNA testing was necessary to generate additional genetic information needed to comply with kinship search requirements. As the original DNA profile was incomplete, additional DNA typing, including male-specific Y-STR DNA typing, was performed to obtain a more complete DNA profile from the infant remains.

With the additional genetic information, a kinship search of the deceased infant's DNA profile was performed. In 2018, the California Department of Justice Missing Persons DNA Program released the results of the kinship search to the Yolo County Sheriff's Office. This provided an investigative lead that led to the identification of Paul Allen Perez as a possible biological father of the infant. The identity of the deceased infant, Nikko Lee Perez (DOB 11/8/1996), was confirmed in October 2019. Nikko Lee Perez had one sibling who was known to have died as an infant and three siblings whose whereabouts were unknown as there is no record of their lives after birth. In January 2020, almost thirteen years after the remains of Nikko Lee Perez and his four siblings. Authorities believe that all five of Paul Perez 'children were under six months old when they were allegedly killed. The remains of three of the infants have not been recovered.

Links to Media Coverage:

https://sacramento.cbslocal.com/2020/01/28/dna-newborn-bloodspot-biobankaccused-serial-infant-killer/

2020 DNA Hit of the Year

https://www.kcra.com/article/arrest-made-in-infant-killing-cold-case-in-yolocounty/30678793

https://www.usatoday.com/story/news/nation/2020/01/27/paul-perezcalifornia-man-arrested-killings-his-5-infants/4591648002/

https://www.washingtonpost.com/nation/2020/01/28/perez-baby-killings/

https://www.huffpost.com/entry/paul-perez-charged-infants-

deaths n 5e30770dc5b6e8375f63d8e5