



2024 DNA Hit of the Year

Top 6 Case List
(By date of submission)



**Captain Jack Kennedy
Tuscaloosa County Sheriff's Office
Violent Crimes Unit
Alabama**

The Case of Elliott L Higgins

The case folder contains additional materials that can be referenced.

Case Type: CODIS linked some crimes, but case solved with Forensic Genetic Genealogy (FGG)

Summary

DNA recovered from sexual assault victims connects (via CODIS) a series of crimes together but does not produce a suspect. 20 years later, local law enforcement submits the DNA to Parabon Labs for forensic genetic genealogy (FGG). Parabon Labs produces a suspect, who is now deceased.

Submitted Narrative

This case involves the investigation of three violent sexual assaults by the Violent Crimes Unit that were determined to be connected between 1991 and 2004. Two of these assaults occurred in Tuscaloosa County (1991 and 2001), and a third occurred in El Paso County, Colorado (2004). One Tuscaloosa County case (1991) and the El Paso County, Colorado case (2004) were connected by DNA recovered from both crimes, showing that the same person was the suspect. Despite extensive investigation by both departments, no viable suspect was identified at that time.

In October of 2021, working through the Alabama Department of Forensic Sciences, samples of the suspect's DNA from 1991 case were submitted to Parabon Labs for possible genetic genealogy research. Parabon labs was able to provide a possible suspect, and subsequent investigation has determined that this suspect was indeed the perpetrator of these crimes. The suspect is now deceased.

The suspect was identified as Elliot L Higgins of Jemez Springs, New Mexico. This is in the Albuquerque area of New Mexico. It was found that Higgins was a teacher of collegiate music, and his family also operated a youth music camp in Jimenez Springs, the Hummingbird Music Camp. Higgins specialized in the French Horn, and at one time, was the conductor of the Albuquerque Philharmonic, as well as a manager of the Santa Barbara Symphony in California, and the Fort Wayne Indiana Philharmonic in Indiana. A criminal record of sexual assaults committed by Higgins in the 1970's was located during the investigation.

In 1976, Higgins helped found, and then participated as a judge, at an annual collegiate musical competition, the "International Horn Competition." (It was also called at different times the



“American Horn Competition.”) This competition was held at different universities across the United States, and it was found to have been hosted by the University of Alabama on the same year and week as the two Tuscaloosa County sexual assaults in 1991 and 2004. It was also confirmed through competition records that Higgins was present and a judge at both competitions in Tuscaloosa, the years of the sexual assaults in question. Other than being in Tuscaloosa for the few days of the Horn Competitions, 10 years apart, Higgins had no connection the Tuscaloosa area.

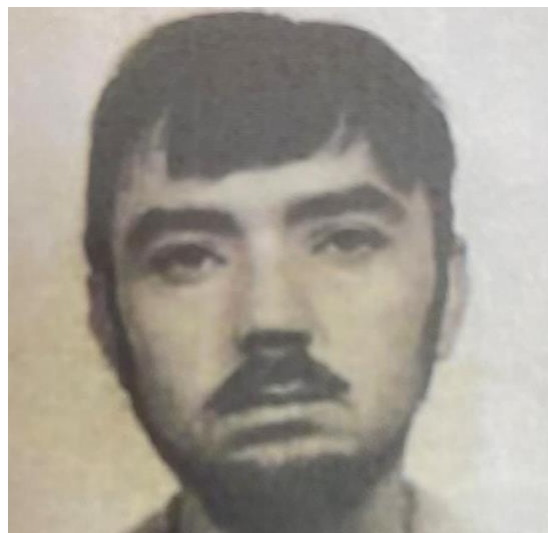
Composite drawings, modus operandi, victim identification, and other evidence, showed Higgins was the perpetrator of these three sexual assaults. Additionally, subsequent DNA testing of Higgins biological relatives has now confirmed that Higgins is the offender with a probability greater than 99.999%.

It is suspected that Higgins may have committed similar violent assaults throughout his lifetime, and throughout the country. All investigative information has been shared with all police jurisdictions where the Horn Competition was held, as well as forwarded to the FBI. Numerous investigators, in different departments, have worked diligently on this case for over 20 years. Due to their hard work, the professional standards of the Alabama Department of Forensic Sciences, and the utilization of new technology, this suspect has finally been identified.

Although his subject is now deceased, by identifying him, we hope to bring closure to his known victims, and encourage any other persons who may have been a victim of Higgins to contact the appropriate police jurisdiction.



1991 composite drawing



Eliot Higgins 1972 Arrest



2004 Colorado case composite



2004 Victim's drawing of suspect



2001 Computer sketch



2001 Artist Sketch



Elliot Higgins



Media

Wall Street Journal

<https://www.wsj.com/articles/how-dna-tied-a-noted-french-horn-teacher-to-a-string-of-unsolved-sex-crimes-b8e05926>

Fox News

<https://www.foxnews.com/us/alabama-serial-rapist-tied-horrifying-attacks-dna-research>

Albuquerque Journal

https://www.abqjournal.com/news/local/dna-links-deceased-new-mexico-musician-to-three-sexual-assaults/article_bc0c6d3f-2f64-59e2-9f45-e15ba4999936.html

National Criminal Justice Association

<https://www.ncja.org/crimeandjusticenews/dna-matching-links-late-french-horn-player-to-serial-rapes>

Santa Fe New Mexican

https://www.santafenewmexican.com/news/local_news/hummingbird-music-camps-deceased-music-teacher-a-suspect-in-sex-crimes/article_799e80c2-a3fd-11ed-9546-13be2658cb1e.html

Forensic Magazine

<https://www.forensicmag.com/594241-Lifelong-Rapist-Tied-to-3-Attacks-Possibly-More/>

Yahoo Sports

<https://sports.yahoo.com/tuscaloosa-violent-crimes-unit-says-175850323.html> Tuscaloosa News
<https://www.tuscaloosanews.com/story/news/crime/2023/02/03/violent-crimes-unit-tracks-down-cold-case-rapist/69867563007/>

WVUA 23 News

<https://www.wvua23.com/after-30-plus-years-serial-rapist-identified-with-99-99-certainty/>

WBRC Fox6 News

<https://www.wbrc.com/2023/02/02/dna-analysis-solves-decades-sexual-assault-cases-suspect-deceased/>

CBS 42 News

<https://www.cbs42.com/news/local/we-were-duped-by-a-master-manipulator-and-liar-family-friends-of-elliott-higgins-speak-on-man-accused-alabama-sex-crimes/>

ABC 3340 News

<https://abc3340.com/news/local/alabama-department-of-forensic-sciences-tuscaloosa-county-el-paso-county-elliott-higgins-dna-genealogy-jimenez-springs-new-mexico->



hummingbird-music-camp

KRQE News

<https://www.krqe.com/news/crime/cold-case-rapes-connected-to-new-mexico-music-teacher/>

Tuscaloosa Thread

<https://tuscaloosathread.com/police-link-assaults-to-dead-colorado-man/Alabama> Now
<https://www.alabamanow.com/2023/02/02/dna-links-violent-alabama-rapes-to-deceased-new-mexico-musician-decades-after-crimes-committed/>

Tuscaloosa Patch

<https://patch.com/alabama/tuscaloosa/dna-evidence-helps-identify-deceased-serial-rapist-tuscaloosa-cases>

Front Page Detectives

<https://www.frontpagedetectives.com/p/dna-music-teacher-rape-alabama-colorado>

Newser

<https://www.newser.com/story/331913/we-were-duped-by-a-master-manipulator-and-liar.html>



Todd Morris
East Baton Rouge Parish Sheriff's Office
Baton Rouge, Louisiana

The First Rapid DNA Booking Station-generated CODIS Hit

Case Type: Rapid DNA + NDIS database search

Summary

Use of Rapid DNA at booking stations in East Baton Rouge, Louisiana leads to an unknown profile hit in NDIS based on crime scene evidence from a carjacking 2 years earlier.

Submitted Narrative

On June 9, 2020, at 6:25 pm, the Atlanta Police Department (APD) responded to an armed robbery/carjacking. The 80-year-old victim was approached by the suspect who was armed with a handgun. The suspect forced the victim out of the vehicle at gunpoint and fled in the victim's 2018 Mercedes Benz C55. APD located the abandoned vehicle. A drink can was located inside the vehicle and processed for DNA. An unknown profile was obtained and entered into CODIS with no match.

In 2019, East Baton Rouge Parish Sheriff's Office (EBRSO) and the Louisiana State Police Crime Lab (LSPCL) partnered to implement Rapid DNA technology for arrestee DNA processing during booking. Inside the booking area, deputies utilized the automated fingerprint identification system (AFIS) as the main booking identification system and a rapid DNA instrument for DNA analysis. The instruments are synced to the LSP Criminal Justice Information System (CJIS) hub. The arrestee is processed at the livescan digital fingerprinting terminal. If required, the system prompts for collection of a DNA sample for submission to the LSPCL and an additional sample which is processed on the RapidHIT ID System by EBRSO. A Rapid DNA profile is generated within 90 minutes and searched immediately against the DNA Index of Special Concern (DISC) and then searched at SDIS and NDIS at the next scheduled autosearch.

In April 2022, EBRSO and LSPCL were the first agencies in the country granted authority by the FBI to operate a Rapid DNA Booking Station. The program went live on August 1, 2022. On Sunday August 14, 2022, EBRSO arrested Fabulous Coudray for illegal possession of stolen things (vehicle). During booking, DNA was collected from Coudray. The DNA sample was processed on the RapidHIT ID by EBRSO booking station deputies and immediately searched in the DNA Index of Special Concern with no match. That evening the rapid DNA profile was auto-searched in NDIS, which produced a match to a Georgia Bureau of Investigation DNA profile that was obtained from the drink can in the above-described armed robbery/carjacking. This hit was the first Rapid DNA Booking Station generated CODIS hit.

Major Todd Morris of EBRSO contacted the Fulton County District Attorney's Office in Atlanta, Georgia. Major Morris provided the booking information and photograph of the suspect as an



investigative lead. A photographic lineup was prepared. The victim viewed the lineup and positively identified Coudray as the individual that had committed the crime. An affidavit warrant was obtained, and she was subsequently arrested.

Media

<https://www.pbs.org/newshour/nation/how-louisiana-police-are-using-a-dna-lab-in-a-box-to-solve-crimes>



Nancy Say
National DNA Database Chief
Guatemala

First Family Reference Profile Match
between Guatemala and the University of North Texas
The Searching for Missing Central American Migrants

Case Type: Family Reference Sample (transnational migrant identification via mother DNA)

Summary

The first family reference profile association between Guatemala and the University of North Texas Center for Human Identification’s DNA databases leads to the identification of a missing son (who perished along the U.S. migration route), and closure for his mother.

Submitted Narrative (original text as sent to GTH)

The National Institute of Forensic Sciences of Guatemala -INACIF- and the Center for Human Identification of the University of North Texas -UNTCHI-, have since 2017 been developing a humanitarian project for the identification of missing migrants.

In 2022, the comparison between the genetic profiles from samples of the relatives of reported missing migrants from the Humanitarian Genetic Data Bank of Guatemala and the profiles of the Humanitarian Genetic Data Bank from the University of North Texas began. In March 2023, UNTCHI reported the first match between an unidentified male corpse of Guatemalan origin and a Guatemalan woman. Subsequently, after a multidisciplinary analysis, the positive identification of this corpse was achieved. This case corresponds to the case of Juana and Pedro (fictitious names), mother and son respectively.

Pedro, 33 years old, decided to migrate from Guatemala to the United States in search of the American dream, he began his journey in April 2021. At the beginning he spoke via WhatsApp with Juana, his mother, every day. During those conversations, besides to telling her his stories about the trip, he asked her not to worry about him and told her that whenever he could he would keep her informed of his location. One day Pedro told her that he was ready to cross the desert, that he would stop talking to her for a few days in case he didn't have a phone signal or battery, before saying good bye he told her “I love you”. That was the last conversation between Pedro and Juana. As the days passed, Juana had no news of her son, and a strong fear grew within her.

After a month, Juana desperately tried to contact the people Pedro traveled with and received no response. Several months passed and in desperation, Juana used all the information she had available until she could contact the coyote who was paid to transport Pedro to the United States, at that point she begged him to tell her where her son was. After desperately insisting, the coyote told her what she feared most: “your son is dead in the desert, he fainted during the journey to cross the desert and the group had to abandon him”. At that moment Juana’s life changed forever, and from that moment on her only purpose was to hug her son again, no matter how.



Juana and her family sought for support from different Guatemalan institutions in the searching for Pedro. After several months of not finding answers, her husband gave up - the lack of money and support made him not to want to continue. One day, Juana found out through the Guatemalan Ministry of Foreign Affairs -MINEX- that there was a project to identify migrants through DNA. Juana's husband didn't want to participate in the project because he was tired of looking for help without any kind of progress. Despite this and with some doubts associated with her own fatigue and disappointment, Juana requested an appointment to take a DNA sample at INACIF. The day before the appointment, Juana decided not to attend, but at night, during her dreams, her son told her "I need your help"...

The next morning INACIF in Guatemala City took Juana's DNA sample and made an interview to collect ante-mortem data from Pedro, using approved registration forms within the quality management system and taking the corresponding informed consent. The sample obtained was analyzed and a genetic profile was obtained, which was one of the first to be compared to the UNT Humanitarian Genetic Data Bank under established protocols, some months later the positive identification of the Pedro was achieved. Juana and her family will not hear Pedro's voice again, but when all the procedures are finished, they will be able to hug him son again.

The success of this first identification for humanitarian purposes through cooperation of MINEX, INACIF and UNTCHI is indisputable, because it demonstrates the technical capacity of INACIF and the willingness of state authorities to support Guatemalan society through a project with a fully humanitarian objective. Additionally, it demonstrates that joint work between institutions is possible and effective in Latin America and the positive impact that these types of projects have for all.

Media

<https://www.prensalibre.com/pl-plus/guatemala/comunitario/adn-ayuda-a-cerrar-el-duelo-de-familias-de-migrantes-desaparecidos-en-el-extranjero/>

<https://www.inacif.gob.gt/index.php/component/content/article/89-noticias/ultimas-noticias/551-inacif-continua-uniendo-esfuerzos-con-minex-para-contribuir-con-identificacion-de-guatemaltecos-desaparecidos-o-posiblemente-fallecidos-en-el-extranjero>

<https://www.facebook.com/Inacifgt/videos/en-inacif-y-minex-podemos-contribuir-a-la-posible-identificación-de-tu-familiar-/826440749042508/>

<https://prensa.gob.gt/node/17831/printable/print>

Public Awareness Campaign Advertisement Sample





Shakhawan K. Mawlood
Criminal Evidence Directorate
Kuridstan, Ministry of Interior
Kurdistan, Iraq

Incestuous Acts: A Child with Multiple Alleged Fathers

Case Type: Paternity, database, and mass screen.

Summary

An initial sexual assault case leads investigator to uncover via DNA a complicated, incestuous set family relationships involving a woman raping her male 15-year-old nephew, and her subsequently bearing a child.

Submitted Narrative

We report an unusual paternity test case showing multiple peculiarities. Incest is widely considered illegal. Iraq has legal provisions in place to address various forms of sexual offenses, including incestuous relationships. Moreover, the Iraqi legal system is influenced by Islamic law, and interpretations and enforcement of these laws can be influenced by cultural and regional factors.

Basic Scenario and Process: On 5th April 2023 our laboratory was requested by the court to do a paternity test for a child (girl) and an alleged father (AF) who been accused of sexually assaulting his sister. Saliva samples were collected from both child and the mother (“sister of accused person”). The mother was reported as a missing person and we did not have her sample at this time for deoxyribonucleic acid (DNA) extraction. After extraction and RT-PCR quantitation and quality and quantity checks, the sample extracts were amplified with the commercially available kit (AmpFISTR Identifiler Plus) to confirm a sibling incest relationship between the AF and mother. The result of the autosomal short tandem repeat (STR) profiles showed that the AF could not be excluded at 15 loci, however there was a single inconsistency (non-matching system) at the tyrosine hydroxylase (TH01 locus, where the AF showed alleles 7 and 9, while for the child showed alleles 6 and 6.

Advanced Process: A deeper investigation was performed upon the initial DNA extracts from AF and child using DNA amplification with the commercially available kit (GlobalFiler). Surprisingly, the AF was again sharing at least one allele with the child in all the 24 loci except TH01 allele. Our report to the court concluded that AF could not be excluded as a biological father and that a mutation at TH01 locus for the child was documented with a paternity index statistic calculation (population genetics considered) with a probability of likelihood of 99.99%. After a thorough review of both the evidence and legal argument, the judge ruled to send the man to prison and to send the child to adoptive parents.

A Surprising Development to the Original Scenario: After five months (September 2023) our laboratory was asked to obtain a genetic profile from a male as a suspect of robbery crime. While



the STR profiles were entered into the Kurdistan Police DNA Database, surprisingly the search tool showed that this male robbery suspect could be a new possible AF of the original scenario's incest case. We called him AF2 and the original imprisoned man AF1.

Breaking the Silence: While collecting the biological samples from the mother (who is herself a victim), a chance was given to listen to her traumatic life in her own words. She and her elder sister had been repeatedly sexually assaulted, mistreated, tortured, prevented from going outside, and treated like prisoners since an early age. In her case the sexual abuse began at age 12 (she is now 27 years old). Her elder sister had been forced to marry (for the purpose only of losing her virginity) so that her monster brothers could have undetected intercourse with her as a married woman. This brutal action was happening continually until her older sister allegedly committed suicide. She believes her sister was murdered. In her story, her older sister's son, her now orphaned nephew, was living with her because his father (now a widower) remarried again and left his son to be raised by his mother's family. She and her nephew became very emotionally close. In his words, "She was like his mother and similarly he was like her son as he was the only memory left after her beloved sister's death". This soul relation led to the most base and evil opportunities. She says she was helping the nephew with his shower as usual, but this time she trapped the young boy and had sexual intercourse with him. He was 13. This continued. Ultimately, she became pregnant. When the family found out she was pregnant, no one would dare to admit that she was having sexual relationships with several males in the village including her brothers of course. The family arranged an illegal abortion, but she was able to escape. She told the police half of the true and accused her older brother (AF1) of the pregnancy, as she hated him as the man responsible for the horrors of her family including the death of her only sister, but she didn't know that forensic investigation would reveal the entire truths of her actions, including those against her young nephew. In spite of the forensic outcome being reported to the court secretly, the Police cannot ultimately control public opinion unilaterally. Some local news has addressed this incestuous crime. Here are some links in Kurdish and arabic:

The links keep the identities changed. The police are withholding the real names and some details to keep the file secret as the child is adopted under a different name and has no idea about her original family. The police are still investigating the possibility of the older sister's suicide being, in fact, a murder.

In Scientific Conclusion: Interpreting a sibling incest DNA profile report requires an understanding of the genetic information presented in the report and the context in which it is being analyzed. Sibling incest cases involve individuals who share a significant portion of their DNA due to being siblings and, in cases of incest, may share additional genetic material due to close familial relationships. Last but not least, the present case shows the power of a DNA database in its blindness and the use of a large number of STRs to resolve paternity disputes a priori, even in incest cases among close relatives. It is also important to note that the interpretation of likelihood percentages in cases of sibling incest should be done carefully, considering the limitations of the analysis and potential sources of error. Factors such as incomplete genetic data, mutations, and complex family relationships can complicate the analysis. Therefore, an advanced level of consultation on these difficult scenario cases with



genetic and forensic experts is essential for a comprehensive and accurate assessment of the full likelihoods of sibling incest based on DNA profiling. Additionally, the legal and ethical aspects of such cases must be taken into account.

Media (media links all are in Arabic and Kurdish; unable to find English-language links)

<https://speemedia.com/dreja.aspx?=hewal&jmare=124129&Jor=1>

<https://www.wishe.net/details.aspx?=hewal&jmare=149682&Jor=14>

<https://www.youtube.com/watch?v=KQHW-b3xAWY>



Ifan Wahyudi
Department of Police Medicine
Indonesian National Police

Terrorist Blows Up Indonesian Police Station in Suicide Bombing

Case Type: Suicide bombing, solved by DNA profiling and database search.

Submitted Narrative

Each individual has a unique DNA profile, leading into a more effective criminal investigation. In addition, searching DNA profiles collected from a crime scene against the DNA database can speed up the identification process. This article shows our achievement in finding the identity of the Astana Anyar suicide bombing perpetrator using the Indonesian National Police Criminal DNA Database.

In the morning at around 8:20 AM on December 7, 2022, a suicide bombing incident occurred at an Indonesian National Police Station in Astana Anyar District, Bandung, West Java, Indonesia. The attacker and one police officer were killed by the explosion, while eleven people were injured including three police officers. In the aftermath of the attack, the EOD and the forensic team were sent to the crime scene in order to identify the bomb and its fragments and the attacker's body fragments at this location.

Results

- Full DNA profiles obtained using Globalfiler from Mr. X samples.
- After searching against the DNA database, a match of 24 locus of Globalfiler found to the code of **CDNAD-17046-VII**.
- Half of DNA profiles of Mr. X matched 2 DNA profiles of Mrs. S1.

Conclusions

Finally, a report of the Criminal DNA Database hit was shared to the investigator of Anti-Terror Special Detachment 88 of Indonesian National Police. By searching the targeted DNA profile against the Criminal DNA Database, the process of identifying the perpetrators of the suicide bombing only takes a short time, driving the police to resolve the case objectively and effectively.

Media

<https://apnews.com/article/police-indonesia-bombings-java-bandung-4128f2ec939fceb4867e180c1e448e30>

<https://www.voanews.com/a/three-indonesian-police-wounded-in-suicide-bomb-attack-authorities/6865741.html>

https://en.wikipedia.org/wiki/Astana_Anyar_bombing



<https://thediplomat.com/2022/12/after-the-astana-anyar-bombing-a-critical-overview-of-indonesias-cve-system/>

<https://www.aljazeera.com/news/2022/12/7/suspected-suicide-blast-at-indonesian-police-station-kills-two>



Suni Edson
Assistant Technical Leader Past Accounting Section
Defense Health Agency
Armed Forces Medical Examiner System (AFMES)
Defense POW/MIA Accounting Agency (DPAA)
DoD DNA Operations - AFDIL

Identification of U.S. Army Air Force
Private First-Class Glenn A. Harris
of the Cabanatuan Prison Camps

Case Type: Prisoner of War (POW) identification (NGS/MPS analysis of mtDNA and autosomal STR and YSTR)

Summary:

DoD forensic DNA experts use NGS/MPS to identify the remains of POW PFC Glenn A. Harris, who died of malaria while under Japanese Imperial Army custody at a Pilipino POW camp.

Submitted Narrative:

U.S. Army Air Forces Private First-Class Glenn A. Harris was born in Monterey County, California to Martin and Myrtle Harris on 16 February 1916. The Harrises were a ranching family in southern California, and Pfc Harris was the second of six children, five boys and one girl. While Pfc Harris took to the skies as part of the 93rd Bombardment Squadron, 19th Bombardment Group, little brother Forrest became a Staff Sergeant in the Marine Corps. SSgt Harris returned home in 1945, taking up the mantle of rancher. However, Pfc Harris was among the over 2,700 service members lost in the Philippines at the Cabanatuan Prison Camp #1.

When the United States officially entered World War II on 7 December 1941, thousands of U.S. troops were already stationed in the Philippines. This chain of islands was a strategic location for both Imperial Japanese troops and Allied forces. So much so, that General Douglas MacArthur had placed the headquarters of the Allied Command in the Pacific on the military fortress island of Corregidor (now officially named Fort Mills), located at the mouth of Manila Bay. General MacArthur abandoned Corregidor 11 March 1942, leaving nearly 10,000 U.S. personnel and 65,000 Filipino soldiers isolated on the Bataan peninsula and at the mercy of the invading Imperial Japanese army.

What followed was the infamous Bataan Death March, in which nearly 75,000 starving and disease riddled soldiers were marched 65 miles through the jungle to the railway station at San Fernando. During the course of the march, thousands of personnel perished. By the time they reached Camp O'Donnell, the deaths continued with another 1,500 U.S. servicemembers and 26,000 Filipinos losing their lives. In an effort to reduce the mortality rate, the Imperial Japanese forces released all of the remaining Filipino service members with the understanding that they would not take up arms against the invaders. However, the U.S. service members were transported forty-two miles across the Luzon peninsula to the Cabanatuan prison camp #1.



During the two and half years Camp #1 contained prisoners of war, 2,764 burials were recorded. Soldiers were able to keep the cemetery in a fairly orderly set of burials. All those perishing in a particular 24- hour period were buried in a single mass grave. Notations of who was in which grave and how they perished were written on whatever scraps of paper could be found. Sometimes the identification notes were buried with the service member, and sometimes hidden away beneath floorboards by other prisoners.

When the camp was finally liberated in January of 1945, the American Graves Registry Service (AGRS) mapped the prisoner created graveyard and exhumed the remains. Bodies were removed to the U.S. Army Air Forces Cemetery in Manila and the vast challenge of identifying nearly three thousand persons began. Many of these were initially identified using dental associations and identification tags; however, tags were often removed during the initial stages of imprisonment. Remains were moved again between 1947 and 1950 to the AGRS mausoleum at Nichols Field near Manila and in 1950 the official Cabanatuan Project was initiated to corroborate historical records with the anthropological records. However, in 1951, the project was abandoned and the approximately 1,000 casualties yet to be identified were interred in the Manila American Cemetery.

At the behest of the families, the modern-day disinterment of the Cabanatuan casualties began in 2014. While the skeletal materials looked to be optimal for DNA recovery, initial testing proved to be quite difficult. Despite using one of the most sensitive forms of testing, Sanger sequencing of mitochondrial DNA (mtDNA), only 39% of the 221 samples submitted to AFDIL generated a reportable sequence. AFDIL surmised that the recovered DNA was extensively fragmented due to the age of the remains and the burial conditions. To further complicate matters, it was discovered that AGRS had treated the remains with a preservative mixture comprised primarily of Plaster of Paris, prepared chalk (CaCO₃), and a zinc compound. Formalin, a known inhibitor of DNA amplification was also found.

AFDIL continued to refine their protocols, bringing on-line a Next Generation Sequencing (NGS; *aka* Massively Parallel Sequencing, MPS) capture based testing strategy for the entirety of the mitochondrial genome in 2016. In addition, an inorganic DNA extraction protocol that can recover larger fragments of DNA was implemented in 2018. The latter has allowed AFDIL to explore the use of autosomal STR testing for these severely compromised samples.

Pfc Harris was one of thousands of service members caught up in the invasion of the Philippines. When entering the Army Air Forces, the 26-year-old truck driver most likely had no idea of what he was entering into, other than the defense of his country that was not yet at war. Instead, his death from malaria was recorded in pencil on the back of the label for a can of milk as he was buried with the seventeen other service members who perished on 26 July 1942.

Remains that were associated with Common Grave 225 (CG225) in which Pfc Harris was believed to be buried were recovered in 2018 and sampled for DNA testing. Over the course of the four years since the initial recovery, scientists at AFDIL and DPAA had determined that



there was extensive commingling between the burial sites. Not only were those historically believed to be included in a location present, but others from adjacent sites and even those who were identified by the original Cabanatuan project. For CG225 specifically, 27 unique mitochondrial DNA sequences have been identified, leading the labs to require additional levels of DNA testing before an identification can be made.

An association to Pfc Harris was made by searching a database of sequences generated from family references associated with the entirety of the Cabanatuan Prison Camp. The whole mtDNA genome sequence generated from four samples was consistent with that of Pfc Harris' little brother Wayne. While a positive result, additional testing was needed to resolve the identification with certitude as mitochondrial DNA is a lineage marker. Remarkably, two samples tested provided sufficient autosomal STR and YSTR profiles for comparison, leading to a combined likelihood ratio of 31.4 trillion that these remains were indeed those of Pfc Glenn A. Harris.

Pfc Harris was officially identified 7 July 2023. While his siblings and parents had passed, he was welcomed home by his numerous nieces and nephews and their children and was buried in his beloved California on 29 September 2023.

Also Identified from Cabanatuan Prison Camp #1 in 2023:

- Cpl James A. Hurt – U.S. Army Air Forces member of the 17th Pursuit Squadron, 24th Pursuit Group. Orphaned at the age of seven, he was raised at the Masonic Widows and Orphans Home in Nashville, TN with his older sister and younger brother. Cpl Hurt will be buried in East St. Louis, IL 28 October 2023.
- Pvt Doyle W. Sexton – U.S. Army Air Forces, member of the Headquarters Squadron, 19th Bombardment Group (Heavy). The oldest of three, Pvt Sexton worked as a gas station attendant in Duchesne, UT before enlisting. He was officially identified 13 July 2023.
- Pvt Leroy M. Slenker – U.S. Army, member 75th Ordnance Depot Company. Pvt Slenker was a bookkeeper at an insurance company in Los Angeles, CA before enlisting. Pvt Slenker was buried 12 July 2023 at Sacramento Valley National Cemetery in Dixon, CA.
- Sgt White S. Goings, Jr. – U.S. Army Air Force, member Unit 93 Bombardment Squadron, 19th Bombardment Group (Heavy). The youngest of ten, Sgt Goings was part of a large Nebraska farming family. Sgt Goings was officially identified 27 June 2023.

Articles:

Untangling the Past - The ISHI Report May 2023 (foleon.com)

(<https://promega.foleon.com/theishireport/the-ishi-report-may-2023/untangling-the-past-the-use-of-dna-technologies-in-a-highly-commingled-world-war-ii-era-case>)



WWII veteran and King City High graduate that died as POW to be buried on shores of Lake San Antonio – KION546 (<https://kion546.com/top-stories/2023/09/15/wwii-veteran-and-king-city-high-graduate-that-died-as-pow-to-be-buried-on-shores-of-lake-san-antonio/>)

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