

# Parabon Sets Industry Genetic Genealogy Record: Exceeds 300 Positive IDs

RESTON, VIRGINIA, UNITED STATES, January 16, 2024 /EINPresswire.com/ -- Parabon proudly announces the groundbreaking achievement of having helped law enforcement agencies make over 300 positive identifications in cases involving violent offenders and unidentified remains. This milestone includes historic moments - the world's first conviction resulting from a lead generated by genetic genealogy (via a plea deal), as well as the first jury conviction from a genetic genealogy lead in both the United States and Canada. (1-3)

Approximately 65% of Parabon's cases involved violent offenders (living or deceased at the time of identification). The closure of multiple cases in 2023 by the Yavapai County Sheriff's Office (YCSO) involving a serial predator provides a glimpse into the types of violent offender cases Parabon tackles. In 1987, Cathy Sposito, a college student, was sexually assaulted and murdered on the Thumb Butte Trail in Prescott, Arizona. At that time, the use of DNA was in its infancy. Because the unknown assailant's DNA from the murder weapon was mixed with the victim's, the case went cold. In April 1990 a similar attack occurred on the trail, but this time the victim lived. In 2020 Parabon was asked to analyze DNA from the 1990 case. Through the use of Parabon's Snapshot genetic genealogy service, Parabon identified Bryan Scott Bennett as a possible person-of-interest. Upon investigation of Bennett, YCSO discovered that he had been tried and acquitted of another attempted sexual assault just a few months after the 1990 attack. After further investigation into Bennett, YCSO obtained authorization for an exhumation of his remains to confirm Parabon's hypothesis. By directly comparing his exhumed DNA to the crime-scene DNA, his connection to the 1990 assault was confirmed. Noting parallels with Sposito's case, YCSO had the mixed DNA sample from the Sposito murder weapon reanalyzed using modern forensic methods and then compared to Bennett's. It was determined by an accredited forensic laboratory that the contributors of the DNA mixture belonged to the victim, Cathy Sposito, and Bryan Scott Bennett,

Parabon Snapshot Statistics May 2018 - December 2023

Total number of leads resulting in identifications <sup>1</sup> (IDs) since Parabon started offering GG (May 2018) across all Parabon Snapshot services	303
Average number of IDs per week since May 2018	1.03
Most distant top GG database match resulting in an ID	30 cM
Number of living violent offenders identified	147
Number of violent offenders deceased at time of ID	51
<b>Case Outcomes</b>	
Years of investigation closed <sup>2</sup>	7,642.7
Average amount of time living violent offenders evaded detection after committing their crime	22.7 years
Number of convictions (trials and plea deals)	66
<b>DNA Processing</b>	
Lowest quantity of DNA successfully analyzed	0.0495 ng (49.5 pg)
Smallest proportion of human DNA in a sample resulting in an ID	3.04%
Lowest human genome coverage <sup>3</sup> resulting in an ID	0.38X
Number of IDs that used whole-genome sequencing (WGS)	57
Number of IDs that used microarray genotyping (half the price of WGS)	246
Number of IDs that required bioinformatics expertise (imputation, data repair, or mixture deconvolution)	82
<b>Age of Cases</b>	
Number of identifications in cases <5 years old	47
Number of identifications in cases >30 years old	121
Active cases resulting in an ID (DNA received within 1 year of crime)	24
Oldest DNA data analyzed (non-law enforcement) <sup>4</sup>	>2,500 years

<sup>1</sup> DNA samples where Parabon provided a lead through one or more Snapshot analyses and led the agency to an individual whose identity was confirmed. Services used include investigative genetic genealogy, DNA phenotyping, ancestry determination and/or kinship inference. Does not include Snapshot identifications from prior to May 2018.

<sup>2</sup> Years between date of crime and date of ID, summed over all IDs

<sup>3</sup> Average number of times each site in the human genome (~3.1 billion) is covered by a sequencing read, e.g. 10X coverage = 31 billion sites sequenced. Most sequencing aims to sequence to ~30X coverage, but forensic samples typically yield coverage <5X. However, even below 1X, sufficiently high-quality data has been produced by Parabon's bioinformatics team to result in an ID.

<sup>4</sup> DNA from Egyptian mummies on which Snapshot DNA Phenotyping was performed.

[https://snapshot.parabon-nanolabs.com/img/ish2021\\_poster-600x450.jpg](https://snapshot.parabon-nanolabs.com/img/ish2021_poster-600x450.jpg)

## 2023 Performance Metrics for Parabon's Snapshot Division

enabling the agency to close the case.

Parabon's identification milestone also includes human remains cases. Many such cases have low quantity and/or poor-quality DNA. A notable example is the King County Sheriff's Office (KCSO) case in Washington involving human remains discovered in 1986, referred to as "Bones 17." This case was one of the last unidentified victims of Gary Ridgway, known as the 'Green River Killer' and one of the most prolific serial killers in the United States. In September 2019, KCSO reached out to Parabon for assistance. Despite only 3.04% of the entire sample registering as human DNA due to the commingling of bacterial and/or plant DNA, Parabon was able to provide DNA phenotype information, which included predictions of the victim's physical description and ancestry, along with genetic genealogy analysis. The ability to use the DNA was due to Parabon's implementation of low-coverage imputation along with a proprietary technique to ensure high-quality genetic genealogy matching to distant relatives. This breakthrough bioinformatics technique opened the door to additional genealogy matches in this case, allowing Parabon's Chief Genetic Genealogist, CeCe Moore, to conduct the analysis.

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At the heart of our Snapshot division mission is an unwavering determination to help law enforcement obtain justice and provide answers for victims and their families.”

*Steve Armentrout, PhD*

With a voluntary DNA sample from an immediate family member, detectives from the KCSO confirmed the identity of human remains as belonging to Lori Anne Razpotnik, who had run away from home in 1982 in her early teens and was never seen by her family again. KCSO held a press conference in December 2023 to announce the resolution of the case.

Since its inception, Parabon's Snapshot® Advanced DNA Analysis Division, has been dedicated to providing leads to

(1a) Image of Cathy Sposito, a college student, murdered in Prescott, AZ by serial predator Bryan Scott Bennett.  
(1b) Yearbook image of Bennett  
(1c) 1992 AZ Dept of Corrections image of Bennett  
(1d) Parabon's Snapshot DNA Phenotyping composite representing the prediction of Bennett's physical traits at age 25.  
(Images courtesy of Yavapai County Sheriff's Office)



Photos of victim Cathy Sposito and serial predator Bryan Scott Bennett, as well as a Snapshot DNA phenotyping composite created by Parabon from crime scene DNA. Courtesy of Yavapai County Sheriff's Office.

(2a) Lori Anne Razpotnik one of the last unidentified victims of the Green River Killer' Gary Ridgway (2b), was from Lewis County, Washington. Her remains were found in Auburn, WA.  
(Images courtesy of King County Sheriff's Office)



Lori Anne Razpotnik (left), was a victim of Gary Ridgway (right). Ridgway was known as the Green River Killer - one of the most prolific serial killers in the US.

law enforcement around the globe. Reaching the mark of over 300 confirmed identifications is a testament to the expertise of the entire Parabon Snapshot team. By leveraging the latest advancements in DNA processing, bioinformatics, phenotyping, kinship inference and investigative genetic genealogy, the company has significantly contributed to the resolution of complex cases and has established a strong reputation for reliability and excellence within the industry.

“At the heart of our Snapshot division mission is an unwavering determination to help law enforcement obtain justice and provide answers for victims and their families,” said Parabon CEO, Dr. Steve Armentrout. “I am tremendously proud of our Snapshot team for reaching this incredible milestone. It’s a reflection of their relentless dedication and expertise in providing top-notch solutions to our clients.”

For a detailed breakdown of Parabon's performance metrics for its Snapshot DNA lead generation work, please refer to the accompanying table available in the image section of this release.

For more information about Parabon and its Snapshot services, please visit [snapshot.parabon-nanolabs.com](https://snapshot.parabon-nanolabs.com).

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- (1) State of Indiana v John D Miller (02D06-1807-MR-15);
  - (2) State of Washington v William Earl Talbott, II (18-1-01670-31); and,
  - (3) Ontario Superior Court of Justice, defendant Robert Steven Wright (R v Wright 2019 ONSC 1598)

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