



### F17 The Yara Gambirasio Case

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After attending this presentation, attendees will be aware of the scientific and judicial issues that have characterized the Italian criminal trial of Massimo Bossetti, who was accused of the murder of Yara Gambirasio.

This presentation will impact the forensic science community by exposing the complex investigative techniques that led to the killer.

**The Case in Brief:** The case refers to the murder of Yara Gambirasio, a 13-year-old girl, that occurred on November 26, 2010, in the small town of Brembate di Sopra, Italy.

Three months after Yara's disappearance, on February 25, 2011, her partly decomposed, frozen corpse was found. Despite having a dozen knife lacerations to her throat and back, Yara died of exposure.

After Yara's death, the police launched a massive screening program which involved not just combing DNA data banks, but administering 15,000 voluntary DNA tests on woman and men living in the area. Nothing so large had previously been attempted anywhere in the world. For the first time, the genetic screening of an entire territory was implemented.

Among those asked to undergo the voluntary DNA tests was Damiano Guerinoni, whose DNA was very similar to that of the killer (nicknamed "Ignoto Uno"). This young man was unquestionably a close relative of the killer, so the police began to investigate his family. His father was one of 11 brothers and sisters. One of Damiano Guerinoni's uncles, Giuseppe Guerinoni, had died 11 years before, so the police decided to go to his widow's house in order to sample traces of DNA. On a sheet of paper a small part of DNA was found that was perfectly compatible with DNA found on the girl.

Giuseppe Guerinoni and his wife had three children, and all three were quickly excluded as suspects. It was then clear that Giuseppe Guerinoni must also have had a male child out of wedlock. The police now had to track down the illegitimate child of Giuseppe Guerinoni.

The police located one of Giuseppe Guerinoni's former colleagues, Vincenzo Bigoni, who said that Giuseppe Guerinoni was a ladies' man. The police identified 532 women still living whom Giuseppe Guerinoni had known in his life and with whom he could have had sexual relations.

These women included Ester Arzuffi, who consented to a DNA test without protest. Her DNA was a perfect match for that found on the dead girl — perfect in the sense that she had the female part of the DNA of "Ignoto Uno," as would the mother of the killer. Arzuffi had been married to the same man, Giovanni Bossetti, since 1967. The couple had three children, two twins (a boy, Massimo, and a girl, Letizia) and a younger son. Everyone had always assumed the father of all three of the children was her husband, but DNA tests revealed that the father of her twins was Giuseppe Guerinoni.

One Sunday evening in June 2014, the police set up a roadblock near Massimo Giuseppe Bossetti's home in Mapello and flagged down his car. They breathalyzed him and he passed, so they let him proceed; however, they now had his DNA on the breathalyzer tube which they swiftly sent to the laboratory for analysis. The match



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between the DNA on the breathalyzer tube and the DNA on the dead girl's clothing was clear. Massimo Bossetti was the killer.

**The Process:** On February 28, 2015, the investigation was closed, and Bossetti remained the only suspect. On April 27, 2015, the trial of Yara Gambirasio versus Bossetti began. The charge was murder with the aggravating circumstance of cruelty. On July 1, 2016, the Court of Assise of Bergamo sentenced Bossetti to life imprisonment for the murder.

**The Critical Aspects of the Process:** The first critical aspect is the abnormality found by the results of mitochondrial DNA and nuclear DNA in one of the samples analyzed. All biological traces sampled from the slip and the leggings of the victim referred to the same male profile that matched the defendant's DNA, except for one sample that revealed a different mitochondrial DNA. In that specific sample, the mitochondrial DNA was different from the defendant's!

The second critical aspect is from a procedural point of view. The DNA was analyzed within the investigation phase, during a period of time in which the defendant was not suspected of the crime and without any guaranteed representation by the presence of his consultants. Furthermore, the analysis cannot be repeated because the DNA has been fully utilized.

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**DNA, Murder, Yara Gambirasio**