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Cat Hair Finds Way Into Courtroom in Canadian Murder Trial

By GINA KOLATA

Correction Appended

It was a trial to remember on Prince Edward Island, Canada. A young woman was murdered, her estranged boyfriend was accused of the crime, and the main evidence against him came from the DNA of a cat.

Forensic scientists say the case is the first in which animal DNA has been introduced in court. It came about only because a determined police officer searched until he found a researcher specialized enough to perform the needed analysis.

"Without the cat, the case falls flat," the defense lawyer, John L. MacDougall, told the jury. But after hearing testimony about how DNA was obtained from the hair of the family cat, the jury found the accused, Douglas Beamish, guilty of second-degree murder.

The case, decided on Aug. 1, is reported in today's issue of the journal *Nature*.

It began on Oct. 3, 1994, when Shirley A. Duguay, a 32-year-old mother of five, vanished from her home in Sunnyside, a city of 16,000 that is the second-largest city on Prince Edward Island. Her car was found a few days later, splattered with her blood. Several months later, Ms. Duguay's body was found in a shallow grave.

Earlier, a military team about six miles from her house had stumbled upon a plastic bag containing a man's leather jacket. Ms. Duguay's blood was on the jacket, and several white hairs were in the jacket's lining. Here, the police thought, might be a clue to the murderer's identity.

But when the police had the hairs analyzed, they turned out to be from a cat. A police inspector, Roger Savoie, decided he would simply order a DNA analysis of the cat hairs, and attempt to provide convincing evidence that the murderer was the owner of the cat. Mr. Beamish, the father of three of Ms. Duguay's children, owned a white cat named Snowball.

But when he called DNA testing labs, Mr. Savoie recalled in an interview, "they had no idea what I was talking about." No one, it seemed, had ever got DNA forensic evidence from a domestic animal and no one was willing to try.

Mr. Savoie persisted, calling experts in the United States and Canada, and eventually he came across Dr. Stephen J. O'Brien, chief of the Laboratory of Genomic Diversity at the National Cancer Institute in Frederick, Md., an expert on cats and their genes. Dr. O'Brien, who had never done a forensic DNA analysis, was intrigued and sought advice from a former student, Dr. Lisa Forman, who worked for Cellmark, a Rockville, Md., company that specializes in forensic DNA analysis.

Dr. O'Brien began by attempting to extract DNA from the hairs that had been found on the jacket lining. Of the eight hairs found in the jacket, only one had usable DNA, in its root.

Then he went on to analyze Snowball's blood. "It looked like a perfect match," Dr. O'Brien said, but he wondered whether he really had proof. After all, what if all the cats on the island were so inbred that their DNA was essentially identical? So he called Mr. Savoie and asked him to round up 20 cats from the neighborhood and send their blood to his lab in Frederick. "We were relieved to find abundant genetic diversity," Dr. O'Brien said.

After his conviction, Mr. Beamish was sentenced to 18 years in a maximum security prison, without parole. He is appealing his sentence, his lawyer said. As for Snowball, he remains with Mr. Beamish's parents, Mr. MacDougall said. "He's still the family cat."