

Slime and punishment

By Bob Grant **Slime and punishment** © Wayne G. Lawler / Photo Researchers, Inc. Two hundred kilometers north of Hobart, Tasmania, on a late September afternoon in 2001, two men broke into the rural home of 71-year-old Fay Olson. The intruders—armed with sticks and wearing black hoods—ransacked Olson’s home, forced her to open a safe, stuffed AU\$550 into a pillow sack, and fled into the bush surrounding the house. They left Olson tied u

By Bob Grant | March 1, 2010

Slime and punishment



© Wayne G. Lawler / Photo Researchers, Inc.

Two hundred kilometers north of Hobart, Tasmania, on a late September afternoon in 2001, two men broke into the rural home of 71-year-old Fay Olson. The intruders—armed with sticks and wearing black hoods—ransacked Olson’s home, forced her to open a safe, stuffed AU\$550 into a pillow sack, and fled into the bush surrounding the house. They left Olson tied up with a belt cinched around her ankles. The pair made off with their loot scot-free, but one of the perpetrators inadvertently left something behind that would spell his undoing 8 years later: a leech, swollen with his DNA-filled blood.

Tasmanian investigators found little in the way of evidence that could tie the criminals to the crime, but one of the officers on the scene noticed a bloated leech wriggling next to the pilfered safe. He collected the parasite—likely *Philaemon grandis*, endemic to Tasmania—as the lone piece of evidence that might help catch the men.

Related Articles

[Leech Species Misidentified](#)

[Maggot Sleuthing](#)

[Who killed Cora Crippen?](#)

“[The leech] had obviously just fed,” says Michael Johnston, the lead investigator on the case. “It was fully engorged.” Johnston and his fellow officers noted that neither they nor Olson had been bitten by the leech, so reasoned that it had to have dropped off one of the criminals.

They kept the leech, killed it, and smeared some of its final blood meal onto a special card treated with DNA preservatives—standard police procedure. The blood sample was sent to Forensic Science Service Tasmania (FSST), the lab that handles DNA profiling and forensic chemistry for the state’s police. Pam Scott, who was a case worker then but is now the manager of forensic biology at FSST, remembers when the leech sample came into the lab. “It was certainly something out of the blue and a very good piece of lateral thinking by the investigators at the scene,” she says. “We did get a [DNA] profile from it.”

That forensic investigators got a viable sample of human blood from the leech was not that surprising, according to Mark Siddall, director of the American Museum of Natural History’s leech lab in New York City. Leeches typically consume about 6 times their own body weight in blood, and the quick-thinking Tasmanian police preserved the blood soon after finding the leech. “My guess is that as long as the leech isn’t allowed to rot, then it would probably behave almost as any other piece of forensic material,” notes Siddall, who wasn’t involved with the case. Siddall adds that using human-specific primers to amplify the DNA from the leech’s blood meal would prevent the amplification of leech DNA, which may interfere with analysis.

Sadly, the DNA isolated from the human blood in the leech didn’t match any other genetic profiles on the Tasmanian DNA Database, so the case went cold.

Then last year, Tasmanian police caught a break in the case. Peter Cannon, a 54-year-old Tasmanian man, was picked up on drug charges and submitted a blood sample from which police pulled a DNA profile. When investigators entered Cannon’s DNA data into the database, a match came back—the blood inside the leech left in Olson’s looted home bore the same profile as Cannon’s. Confronted with this, Cannon pled guilty to aggravated armed robbery and is serving out his 2-year sentence in a Tasmanian prison.

“This would appear to be the first and only time anywhere in the world that a leech served as a source of [incriminating] DNA.” says Johnston, now acting commissioner of Tasmania’s northern district.

The case of Cannon and the Tasmanian leech that led to his conviction demonstrates that the potential sources of incriminating DNA evidence may be limitless. “Maybe there’re other sources that aren’t leaping out at us currently,” says Scott. And could the leech that caught Cannon boost the reputation of its brethren still in the swamps?

“If anything, it does something for the reputation of Tasmanian forensics, that they had the presence of mind to do this,” Siddall says.