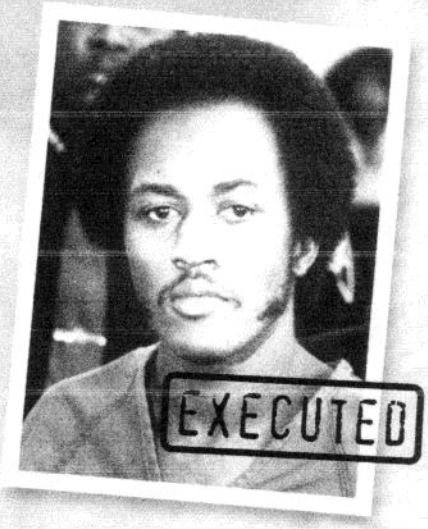
Trapped by flies

Alton Coleman was a terrifying, brutal rapist who killed those he preyed on as casually as you might swat a fly. As it happens, it was a fly—a fat, shiny bluebottle—that led to his execution. Knowledge of insect life cycles led to the crucial pinpointing of the time of death of one of his victims, one month after she had been murdered.



ALTON COLEMAN ▲
Born in 1956 in Waukegan, just north of Chicago, Alton Coleman was in trouble with the police even as a teenager. Arrested several times for rape, he escaped conviction by threatening witnesses.

You couldn't expect to meet a nastier character than Alton Coleman. Plausible and sly, he won the confidence of the people he met, then ruthlessly exploited it to satisfy his voracious, violent, and perverse sexual appetite. Indiscriminately carnal, he was attracted equally to men, women, and children. He so terrified those he raped that he often escaped conviction because they did not dare testify against him.

In the summer of 1984, Coleman's sporadic sequence of petty crime, rapes, and sexual assaults suddenly accelerated. With his girlfriend Debra Brown, he went on a frenzied spree of rape and murder that crossed five states. When police caught up with the pair in July, Coleman and Brown were wanted for eight murders, seven rapes, and 14 armed robberies.

Securing convictions against the pair should have been easy, but Coleman had wriggled out of apparently straightforward cases before. He knew just how to behave in court, with a confident manner that oozed bogus innocence. So when prosecutors began planning to try him, they looked first at crimes where the evidence was strongest—and in the states where the punishment would be harshest.

Vernita Wheat

One of the cases they picked was a murder in Illinois, a state that retained the death penalty. It was as gruesome and heartless as any that Coleman had committed. He had spent a month befriending a single mother in Kenosha, Wisconsin. Then, on May 29, Coleman persuaded her to let him take her nine-year-old daughter Vernita to pick up a used stereo as a belated Mother's Day present, and then go on to a local carnival. They never returned.

Gathering evidence

Vernita's body was found three weeks later in the bathroom of a derelict building in nearby Waukegan, Illinois. Her body was little more than a fly-blown shell. Investigators combed the bathroom for evidence, unscrewing the whole door so that they could examine it in the lab for fingerprints. They found one of Coleman's prints on the door, but this alone was not enough to convict him. What they needed was proof that the girl had died between the afternoon she was abducted and early the following morning. Brown had admitted that Coleman had been out all night, and that when he returned to the apartment they shared at 8 A.M., he told her he had done something "real bad."

◀ THE ACCOMPLICE
Coleman's accomplice Debra Brown was judged to be retarded and dominated by him, but was nevertheless sentenced to death. It is unclear whether she will be executed.

The FBI turned to forensic entomologist Bernard Greenberg to supply the link. To get him started, they sent him the flying, buzzing, creeping, and wriggling inhabitants of Vernita's corpse, and the heaps of pupae that surrounded the body. Greenberg, they hoped, would in return give them a time of death.

It wasn't an easy task. The empty cocoons were from black blowflies that had hatched from eggs laid on the corpse soon after death, and the cloud of flies that hummed around the corpse when it was found was the second generation. Since black blowflies complete their life cycle in little more than two weeks, they didn't give Greenberg the precision he needed, so he turned to the unhatched, unidentifiable cocoons that the FBI had collected from the bathroom floor.

These he gently incubated in laboratory cages. As the days went by, more black blowflies emerged. Sheep blowflies followed, but were equally worthless—they also had too short a life cycle.

◀ **GREENBERG**
A pioneer of forensic entomology, Bernard Greenberg turned crop sprayers' calculations upside down to work out how long Vernita Wheat had been lying dead.

Hatching hope

Finally, a month and a day after Vernita was abducted, Greenberg got what he wanted. A baritone hum from the cages signaled that a squadron of fat bluebottles had emerged from their cocoons. He knew that at a constant 59°F (15°C), bluebottles take 33 days to metamorphose from newly laid egg through grub and cocoon to adult fly. But June temperatures in Illinois are higher than this. They rarely drop below 61°F (16°C), and the average in the daytime is 77°F (25°C). At these higher temperatures, the life-cycle would be shorter.

A scientific estimate taking these variables into account had always been used at this point, but Greenberg knew that it could be made to seem like a "guess" in a court of law. He wanted a much more precise resolution, something mathematical. He turned to an unusual source: agricultural entomology.

Pinpointing time

He knew that entomologists told farmers when to begin crop spraying so that they hit insect pests at the most vulnerable point in their life-cycle. They did this by using a concept called "accumulated degree hours." The agricultural entomologists had discovered that the temperature-dependent growth of insects could be distilled into a simple formula of growth per unit of heat. So if it takes a hypothetical insect 100 hours at 59°F (15°C) to reach a certain stage, then it would take 50 hours at 86°F (30°C).

Armed with more than 700 hourly weather reports from a weather station near the crime scene, Greenberg set to work, "winding back the clock" from the moment the bluebottles started to hatch. When he had finished, he had what he believed was an objective estimate for the moment the eggs were laid. It was midnight on May 30th. Bluebottles, however, aren't active at night, so when Greenberg appeared as an expert witness at the trial of Alton Coleman, he explained that the eggs had probably been laid early the following morning.

It was enough to convince the jury, and Alton Coleman was sentenced to death for Wheat's murder. Another state beat them to it, though, and he was executed on April 26, 2002 for the murder of Marlene Walters, 44, from Ohio.

EXECUTION ▶
Coleman was eventually executed not for killing Vernita Wheat, but for another of his murders. Here, jailers remove his bagged body.

INSECT TIMES

As a corpse rots, time of death indicators (see p. 32) become useless. Forensic entomologists look at the insects that colonize the body in a known succession.

BOX TITLE

STAGES OF DECOMPOSITION	INSECT FOUND
FRESH 0–3 DAYS Adult blowflies are among the first to colonize a fresh corpse, as carbohydrates and proteins break down.	Bluebottle
BLOATED 4–7 DAYS Fly larvae and beetles move in as the body begins to putrefy, producing gases that inflate the abdomen.	Rove Beetle
DECAY 8–18 DAYS When the abdominal wall breaks, the body starts to decay. Ants, cockroaches, and beetles dominate.	Ants
POST-DECAY 19–30 DAYS In damp sites the corpse is still wet and sticky, but in dry places, it's desiccated, attracting different species.	Springtail
DRY 31 DAYS + After just a month in warm summer conditions, the remaining bones, hair, and dry skin smell only of soil.	African Ground Beetle