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## **Anthrax Missing From Army Lab**

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Lab specimens of anthrax spores, Ebola virus and other pathogens disappeared from the Army's biological warfare research facility in the early 1990s, during a turbulent period of labor complaints and recriminations among rival scientists there, documents from an internal Army inquiry show.

The 1992 inquiry also found evidence that someone was secretly entering a lab late at night to conduct unauthorized research, apparently involving anthrax. A numerical counter on a piece of lab equipment had been rolled back to hide work done by the mystery researcher, who left the misspelled label "anthrax" in the machine's electronic memory, according to the documents obtained by The Courant.

Experts disagree on whether the lost specimens pose a danger. An Army spokesperson said they do not because they would have been effectively killed by chemicals in preparation for microscopic study. A prominent molecular biologist said, however, that resilient anthrax spores could possibly be retrieved from a treated specimen.

In addition, a scientist who once worked at the Army facility said that because of poor inventory controls, it is possible some of the specimens disappeared while still viable, before being treated.

Not in dispute is what the incidents say about disorganization and lack of security in some quarters of the U.S. Army Medical Research Institute of Infectious Diseases - known as USAMRIID - at Fort Detrick, Md., in the 1990s. Fort Detrick is believed to be the original source of the Ames strain of anthrax used in the mail attacks last fall, and investigators have questioned people there and at a handful of other government labs and contractors.

It is unclear whether Ames was among the strains of anthrax in the 27 sets of specimens reported missing at Fort Detrick after an inventory in 1992. The Army spokesperson, Caree Vander-Linden, said that at least some of the lost anthrax was not Ames. But a former lab technician who worked with some of the anthrax that was later reported missing said all he ever handled was the Ames strain.

Meanwhile, one of the 27 sets of specimens has been found and is still in the lab; an Army spokesperson said it may have been in use when the inventory was

taken. The fate of the rest, some containing samples no larger than a pencil point, remains unclear. In addition to anthrax and Ebola, the specimens included hanta virus, simian AIDS virus and two that were labeled "unknown" - an Army euphemism for classified research whose subject was secret.

A former commander of the lab said in an interview he did not believe any of the missing specimens were ever found. Vander-Linden said last week that in addition to the one complete specimen set, some samples from several others were later located, but she could not provide a fuller accounting because of incomplete records regarding the disposal of specimens.

"In January of 2002, it's hard to say how many of those were missing in February of 1991," said Vander-Linden, adding that it's likely some were simply thrown out with the trash.

Discoveries of lost specimens and unauthorized research coincided with an Army inquiry into allegations of "improper conduct" at Fort Detrick's experimental pathology branch in 1992. The inquiry did not substantiate the specific charges of mismanagement by a handful of officers.

But a review of hundreds of pages of interview transcripts, signed statements and internal memos related to the inquiry portrays a climate charged with bitter personal rivalries over credit for research, as well as allegations of sexual and ethnic harassment. The recriminations and unhappiness ultimately became a factor in the departures of at least five frustrated Fort Detrick scientists.

In interviews with The Courant last month, two of the former scientists said that as recently as 1997, when they left, controls at Fort Detrick were so lax it wouldn't have been hard for someone with security clearance for its handful of labs to smuggle out biological specimens.

### **Lost Samples**

The 27 specimens were reported missing in February 1992, after a new officer, Lt. Col. Michael Langford, took command of what was viewed by Fort Detrick brass as a dysfunctional pathology lab. Langford, who no longer works at Fort Detrick, said he ordered an inventory after he recognized there was "little or no organization" and "little or no accountability" in the lab.

"I knew we had to basically tighten up what I thought was a very lax and unorganized system," he said in an interview last week.

A factor in Langford's decision to order an inventory was his suspicion - never proven - that someone in the lab had been tampering with records of specimens to conceal unauthorized research. As he explained later to Army investigators, he asked a lab technician, Charles Brown, to "make a list of everything that was missing."

"It turned out that there was quite a bit of stuff that was unaccounted for, which only verifies that there needs to be some kind of accountability down there," Langford told investigators, according to a transcript of his April 1992 interview.

Brown - whose inventory was limited to specimens logged into the lab during the 1991 calendar year - detailed his findings in a two-page memo to Langford, in which he lamented the loss of the items "due to their immediate and future value to the pathology division and USAMRIID."

Many of the specimens were tiny samples of tissue taken from the dead bodies of lab animals infected with deadly diseases during vaccine research. Standard procedure for the pathology lab would be to soak the samples in a formaldehyde-like fixative and embed them in a hard resin or paraffin, in preparation for study under an electron microscope.

Some samples, particularly viruses, are also irradiated with gamma rays before they are handled by the pathology lab.

Whether all of the lost samples went through this treatment process is unclear. Vander-Linden said the samples had to have been rendered inert if they were being worked on in the pathology lab.

But Dr. Ayaad Assaad, a former Fort Detrick scientist who had extensive dealings with the lab, said that because some samples were received at the lab while still alive - with the expectation they would be treated before being worked on - it is possible some became missing before treatment. A phony "log slip" could then have been entered into the lab computer, making it appear they had been processed and logged.

In fact, Army investigators appear to have wondered if some of the anthrax specimens reported missing had ever really been logged in. When an investigator produced a log slip and asked Langford if "these exist or [are they] just made up on a data entry form," Langford replied that he didn't know.

Assuming a specimen was chemically treated and embedded for microscopic study, Vander-Linden and several scientists interviewed said it would be impossible to recover a viable pathogen from them. Brown, who did the inventory for Langford and has since left Fort Detrick, said in an interview that the specimens he worked on in the lab "were completely inert."

"You could spread them on a sandwich," he said.

But Dr. Barbara Hatch Rosenberg, a molecular biologist at the State University of New York who is investigating the recent anthrax attacks for the Federation of American Scientists, said she would not rule out the possibility that anthrax in spore form could survive the chemical-fixative process.

"You'd have to grind it up and hope that some of the spores survived," Rosenberg said. "It would be a mess."

"It seems to me that it would be an unnecessarily difficult task. Anybody who had access to those labs could probably get something more useful."

Rosenberg's analysis of the anthrax attacks, which has been widely reported, concludes that the culprit is probably a government insider, possibly someone from Fort Detrick. The Army facility manufactured anthrax before biological weapons were banned in 1969, and it has experimented with the Ames strain for defensive research since the early 1980s.

Vander-Linden said that one of the two sets of anthrax specimens listed as missing at Fort Detrick was the Vollum strain, which was used in the early days of the U.S. biological weapons program. It was not clear what the type of anthrax in the other missing specimen was.

Eric Oldenberg, a soldier and pathology lab technician who left Fort Detrick and is now a police detective in Phoenix, said in an interview that Ames was the only anthrax strain he worked with in the lab.

### **Late-Night Research**

More troubling to Langford than the missing specimens was what investigators called "surreptitious" work being done in the pathology lab late at night and on weekends.

Dr. Mary Beth Downs told investigators that she had come to work several times in January and February of 1992 to find that someone had been in the lab at odd hours, clumsily using the sophisticated electron microscope to conduct some kind of off-the-books research.

After one weekend in February, Downs discovered that someone had been in the lab using the microscope to take photos of slides, and apparently had forgotten to reset a feature on the microscope that imprints each photo with a label. After taking a few pictures of her own slides that morning, Downs was surprised to see "Antrax 005" emblazoned on her negatives.

Downs also noted that an automatic counter on the camera, like an odometer on a car, had been rolled back to hide the fact that pictures had been taken over the weekend. She wrote of her findings in a memo to Langford, noting that whoever was using the microscope was "either in a big hurry or didn't know what they were doing."

It is unclear if the Army ever got to the bottom of the incident, and some lab insiders believed concerns about it were overblown. Brown said many Army officers did not understand the scientific process, which he said doesn't always follow a 9-to-5 schedule.

"People all over the base knew that they could come in at anytime and get on the microscope," Brown said. "If you had security clearance, the guard isn't going to ask you if you are qualified to use the equipment. I'm sure people used it often without our knowledge."

Documents from the inquiry show that one unauthorized person who was observed entering the lab building at night was Langford's predecessor, Lt. Col. Philip Zack, who at the time no longer worked at Fort Detrick. A surveillance camera recorded Zack being let in at 8:40 p.m. on Jan. 23, 1992, apparently by Dr. Marian Rippy, a lab pathologist and close friend of Zack's, according to a report filed by a security guard.

Zack could not be reached for comment. In an interview this week, Rippy said that she doesn't remember letting Zack in, but that he occasionally stopped by after he was transferred off the base.

"After he left, he had no [authorized] access to the building. Other people let him in," she said. "He knew a lot of people there and he was still part of the military. I can tell you, there was no suspicious stuff going on there with specimens."

Zack left Fort Detrick in December 1991, after a controversy over allegations of unprofessional behavior by Zack, Rippy, Brown and others who worked in the pathology division. They had formed a clique that was accused of harassing the Egyptian-born Assaad, who later sued the Army, claiming discrimination.

Assaad said he had believed the harassment was behind him until last October, until after the Sept. 11 terrorist attacks.

He said that is when the FBI contacted him, saying someone had mailed an anonymous letter - a few days before the existence of anthrax-laced mail became known - naming Assaad as a potential bioterrorist. FBI agents decided the note was a hoax after interviewing Assaad.

But Assaad said he believes the note's timing makes the author a suspect in the anthrax attacks, and he is convinced that details of his work contained in the letter mean the author must be a former Fort Detrick colleague.

Brown said that he doesn't know who sent the letter, but that Assaad's nationality and expertise in biological agents made him an obvious subject of concern after Sept. 11.

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