

## Bacterium Implicated in Outbreak

# Army Tested Germ Warfare on Cities

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NEW YORK—At least eight American cities and military installations were subjected to simulated biological warfare attacks by Army scientists between 1950 and 1966. The military continued to use a bacterium in the tests even though it was implicated in an outbreak of infection that killed one man in San Francisco within weeks of the initial test.

Information released by the Army at the request of Newsday confirmed that the tests were conducted in Key West and Panama City, Fla., New

York City and San Francisco over the 16-year period that ended when the bacterium, *Serratia marcescens*, was dispersed in the New York City subway system.

The Army said that similar tests, in which bacteria were released into the air and their spread was monitored by military personnel, were conducted in army installations at Point Nugu and Port Hueneme, Calif., in the Los Angeles area, Ft. McClellan, near Anniston, Ala., and a Navy facility in Mechanicsburg, Pa. The Army also admitted testing bacteria at the Pentagon, but would discuss no details.

Sources and documents revealed:

- In the Mechanicsburg test, the Army also used a fungus, *Aspergillus fumigatus*, that it admits can be fatal to humans. A federal official, Dr. Libera Ajello, director of mycology for the U.S. Center for Disease Control in Atlanta, said last week, "If I had been consulted and asked to choose an *Aspergillus* to use in a simulated biological warfare setup, *fumigatus* is the last one I would have suggested, because we know its pathogenic."

- During 1952, when the Army conducted the test at Ft. McClellan, the

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number of pneumonia cases more than doubled in the surrounding county. In that year the area, though it had less than 3 per cent of Alabama's population, accounted for more than 12 per cent of the state's reported cases of pneumonia, according to health officials. There was also a 10-fold increase in pneumonia deaths, in the Key West area in the year after the Army's test. *Serratia* has been identified in medical literature as a rare cause of pneumonia.

- The Army admitted last week that its list of targets in the so-called "vulnerability tests" might be incomplete. The Army released minimal information about the tests following a story published in Newsday last month that detailed the 1950 test in San Francisco and the subsequent outbreak in Stanford University Hospital of *Serratia* infections, which killed one man.

The information released by the Army revealed nothing about the methods used in the tests or the results. The Army list also did not men-

tion a series of tests which, sources told Newsday, were carried out in San Francisco in late 1954 and early 1955 under the code name Operation Seaspray. In those tests, high concentrations of *Serratia* were found more than 50 miles from the test site.

An Army spokesman, Joseph Penton, said that the list of tests had been taken from a still-secret report on biological warfare that was prepared in November, 1970, to brief top military officers. The spokesman admitted that the list might be incomplete. Only the year and location of the tests were given to Newsday, along with some general background on the types of biological agents used.

In addition to *Serratia* and *Aspergillus*, the Army said it used *Bacillus globigii*, a usually harmless bacterium, in all of the tests except Key West. The Army said it discontinued all such tests in 1969 following an executive ban on offensive biological warfare and stockpiling.

"The biological substances involved in the tests were used as simulants for training and field evaluation to determine vulnerability to enemy biologi-

cal attack and adequacy of defense measures," the Army release to Newsday said. "The substances were routinely used at the (Army) Chemical Corps . . . for training students on biological sampling and analysis procedures."

The Army report admitted that, in 1966, 16 years after the death in San Francisco, it used Serratia in the New York City subway system. Some details about that test emerged last year in testimony before the Senate Select Committee on Intelligence, although Serratia has not identified as the agent used.

Charles A. Senseney, a Defense Department employee, testified that a lightbulb containing a "simulant agent" was dropped from a moving subway train and the spread of the agent through the tunnels was monitored.

"It went well through the entire subway system, because we started down around 14th Street and sampled up as far as about 58th Street, and there [was] quite a bit of aerosol [containing the bacteria] all along the way," Senseney said.

The 1950 death in San Francisco was caused by Serratia that found its way into a hospital patient's bloodstream several days after the Army test. Serratia macescens was used by the Army, according to sources, because it believed it to be harmless and was easily traceable.

Sources in the Naval Biosciences Laboratory at Oakland, headquarters for the San Francisco tests, also said that Serratia could cause pneumonia, particularly in infants. Newsday found that, in at least two instances, an Army test was associated with a peculiar rise in pneumonia cases.

Dr. Thomas Chester of the Alabama State Health Department said that Calhoun County, where Ft. McClellan is located, had 139 cases of pneumonia in 1951.

In 1952, the year of the test, the number of cases increased to 333 as the county, with less than 3 per cent of the state's population, accounted for more than 12 per cent of the state's reported pneumonia cases. In 1952, the number of cases dropped to 98.