

The Bug Battalion:

A Descriptive of Entomological Warfare



By: Kyle Brinson

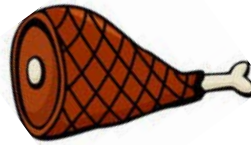
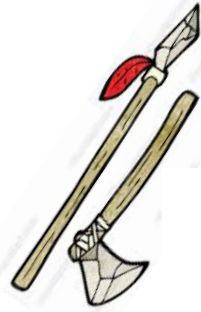
What is it?

❖ **A type of Biological Warfare that uses insects to attack enemies**

- **Direct Attack (attack people)**
- **Indirect Attack (attack resources)**
- **Vector Attack (insects carrying disease)**

Nothing new ~ has been used for centuries

Direct Attack



Indirect Attack

Locusts



Colorado Potato Beetle

Vector Attack



Early Historical Use

Vague historical references until humans started documenting historical events

1346

Genghis Khan catapulted plague ridden Mongol corpses over the castle walls of Kafa (now Feodosia, Crimea)

Fleas dispersed and spread the disease to the enemy

1710

Russia attacked Sweden by catapulting plague infected corpses over the city walls of Reval.

Recent Historical Use

WWII -1940

Japan's unit 731 led by Lt. General Shiró Ishii dispersed plague infected fleas and flies covered with cholera via low flying planes to infect the populations of China.

~ 500,000 deaths.



WWII – July 1944 Battle of Saipan

Japan intended on releasing plague infested fleas onto U.S. combatants; however, the Japanese submarine carrying fleas was intercepted and sunk by U.S. Submarine “Swordfish”

WWII –March 26, 1945 “Operation Cherry Blossoms at Night”

Japan finalized plans to spread plague fleas over Southern California scheduled for September 22, 1945.

- **Plan halted with Japanese surrender on August 15, 1945.**

WWII

Germany experimented with mass-production and dispersion of the Colorado Potato Beetle. Release of 54,000 beetles resulted in an infestation to their own country in 1944.





Cold War -1954

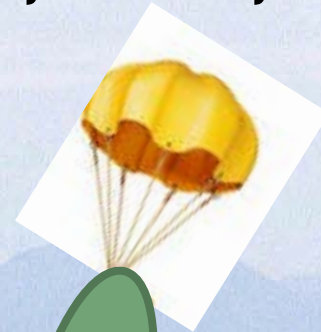
**U.S. operation “Big Itch”
Dugway Proving Grounds, Utah.**

**- Tested munitions loaded with
uninfected fleas.**

1,000 – 2,000 Feet



**100,000
Fleas**



**100,000
Fleas**

**At a predetermined height, smaller bombs
dropped via parachute, disseminating their
vectors**

1955 U.S. Operation “Big Buzz”

-Dropped 300,000 *Aedes aegypti* over Georgia to see survival rates, feeding results, and dispersion.

1961 U.S. Operation “Bellwether II”

-Released uninfected, starved, virgin female mosquitoes on U.S. soldiers to test varying vector to host ratios.

1965 U.S. Operation “Magic Sword”

-Dropped *Aedes aegypti* over the SE coast to assess how well mosquitoes could find their way to land while battling strong oceanic winds.

Operation Drop Kick
Operation May Day

Partially declassified in 1981
Cost/Death: 50% vector mortality
625,000 deaths @ \$0.29 / death

1989 California Med Fly Attack

“The Breeders” claimed responsibility for releasing Mediterranean fruit flies

- **Indirect Attack to damage crops**
- **Financial retaliation for aerial spraying of Malathion**
- **\$60 million dollars in eradication efforts**



The Biological Weapons Convention of 1975

“prohibits the development, production, and stockpiling of biological agents as well as related equipment and delivery systems that are intended for hostile use.”

•As of 2002 -- 147 member countries



THANK YOU!

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