

Mosquitoes and the Mail in the 1800s



The yellow fever demon, a hybrid non-human figure, symbolizing evil with “Yellow Jack” written across his chest, clutching Florida’s throat and disrupting business and trade, as “Columbia” comes to the rescue.

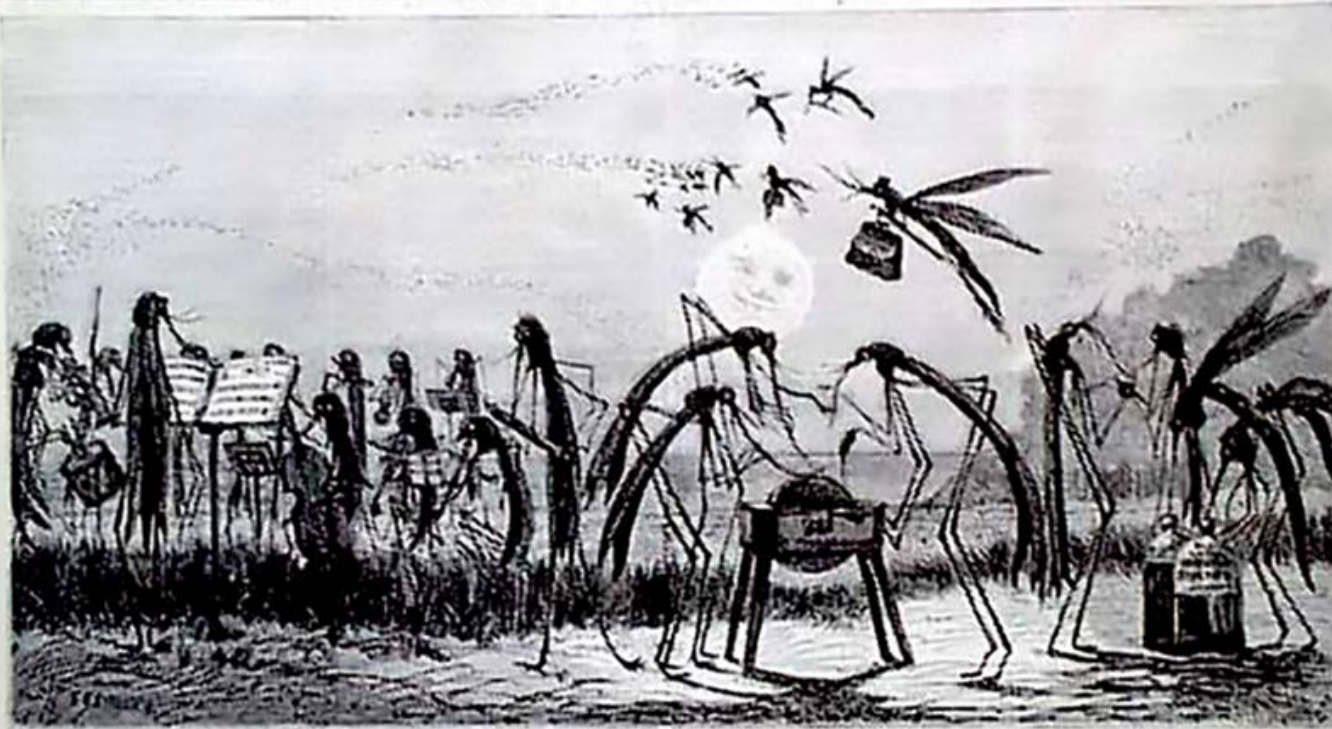
Typescript label on reverse reads:
Cartoon by Matt Morgan (1873) *Frank Leslie's Weekly*
<https://www.loc.gov/pictures/item/2010718763/>

Prepared for CFSC 2020
Thomas Lera

Origin of the Word “Mosquito”

A New Map of the English Plantations in America both Continents and Islands. by Robert Morden and William Berry, London in Black, J.D., ed. 1673. *Blathwayt Atlas*, vol. II, p. 43-45.

- The *Oxford English Dictionary* traced its origin to the Spanish and Portuguese in the late sixteenth century from the Latin word *mosca*, for fly.
- European mapmakers paid tribute to Florida's mosquitoes in the late 1600s by naming a stretch of its east coast the Bay de Mosquitos (see red arrow).
- They noted Florida was flat, watery, and populated with exceptionally large numbers of mosquitoes.
- They soon discovered Florida's 1,350 miles of coastline and 8,426 miles of tidal shoreline was the ideal mosquito habitat.



LATEST FROM THE FRONT—OUR FRIENDS THE MOSQUITOES PREPARING AND OFF FOR THE SUMMER CAMPAIGN.

GALLINIPPERS

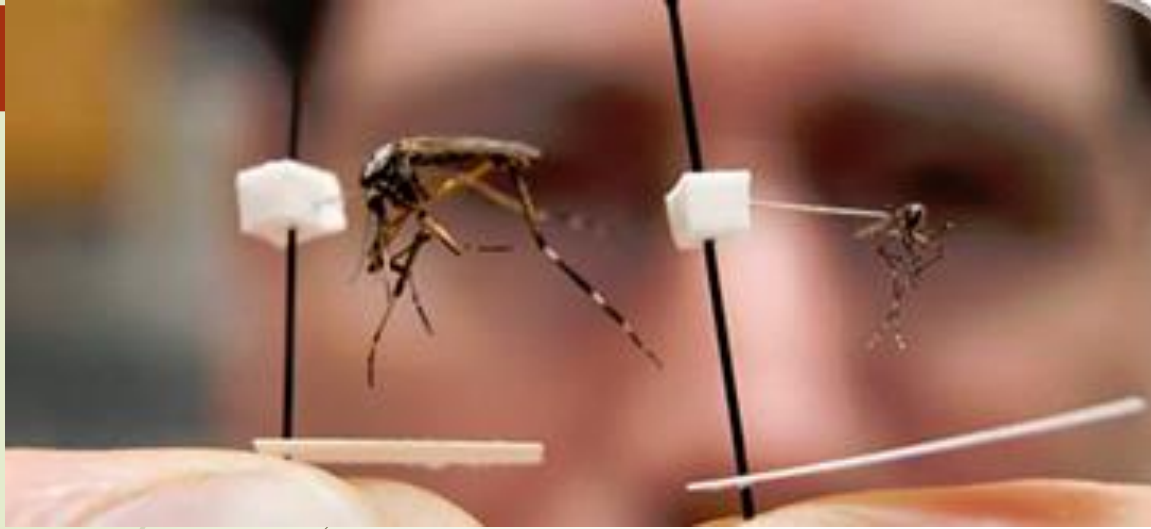
They were the slyest, meanest, most cunning & malicious of all the mosquitoes.

One imaginative Confederate, commenting on mosquitoes during the Civil War, said they were a "preponderous size -- almost able to shoulder a musket"

Frederick S. Church's cartoon in *Harpers Weekly*, June 21, 1873, p. 532

"Latest from the front, our friends the mosquitoes preparing and off for the summer campaign."

Note: the officers looking at a globe planning the attack & the band sending them off.



GALLINIPPERS

Psorophora ciliata

- The gallinipper, a flood water mosquito with a body about $\frac{1}{2}$ inch long, is 20 times larger than the average mosquito.
- Their eggs can remain dry & dormant for years, then hatch when flood waters cover the area.
- They are aggressive and feed both day and night (most mosquitoes aren't active during the day). While its bite doesn't contain venom, it is very painful.
- One of the few mosquito species whose larvae feed on other mosquito larvae.

Differences



There are about 3,500 mosquito species. Roughly 200 species can be found in the United States and 80 species live in Florida – more than any other state.

Of the subset of 460 *Anopheles*, the females of approximately 40 species transmit malaria well enough to cause significant human illness & death. Eight are found in Florida

- Malaria is a disease caused by a protozoan **parasite** *Plasmodium* with five species known to infect humans.



Yellow fever is an acute viral hemorrhagic disease transmitted by infected *Aedes aegypti* mosquito. The “yellow” in the name refers to the jaundice affecting some patients.

- Yellow fever is a disease caused by a **virus**.

Mosquitoes and the Civil War

- About 750,000 died in the Civil War
- Of the 360,000 Union dead, 65% died of disease. More than 1.3 million cases of malaria were reported by Union Hospitals, with 10,000 deaths annually.
- Over 200,000 African-American served the Union forces and reported 152,000 cases of malaria. Roughly 40,000 died with 75% of them from illness.
- Although the Confederate records were burned with the fall of Richmond, it is estimated 290,000 died, with 75% caused by disease, and malaria was 10 – 15% higher than those of the Union forces.
- The Union limited fighting during yellow fever and malaria season. Farragut in his attack on Vicksburg report 75% of his troops were dead or disabled by mosquitoes. The South had lived with yellow fever outbreaks, so most were immune.
- The Union had quinine, a malaria cure, while the South had limited or no supply. By February of 1865, 15% of the Confederate army was sick or deserted.

MALARIA CURE 1860 - 1880s



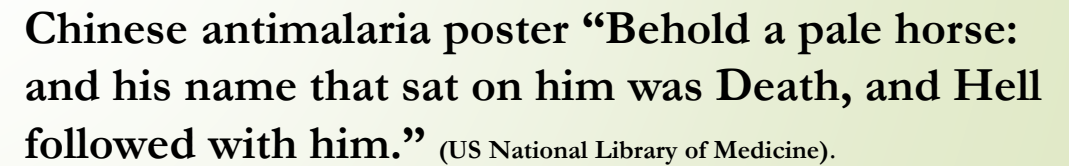
Back read: Ayer's Ague Cure for all malarial disorders was a bitter vegetable tonic **containing bark from the cinchona tree**, which later became known as quinine, was very effective in fighting malaria.

Private Die Proprietary "Match and Medicine Stamps"
Medicine Revenue Stamp - RS4D Type 2 on watermarked paper.



1856 Map - areas of Yellow Fever and Intermittent Fever (Malaria).

1856 Map - areas of Yellow Fever and Intermittent Fever (Malaria).



Chinese antimalaria poster “Behold a pale horse: and his name that sat on him was Death, and Hell followed with him.” (US National Library of Medicine).

The geographical distribution of health & disease, in connection chiefly with natural phenomena. (with) Fever districts of United States & W. Indies, on an enlarged scale By A. Keith Johnston, F.R.S.E. &c. Engraved by W. & A.K. Johnston, Edinburgh. William Blackwood & Sons, Edinburgh & London. (1856) <http://purl.stanford.edu/xw164sp5789>

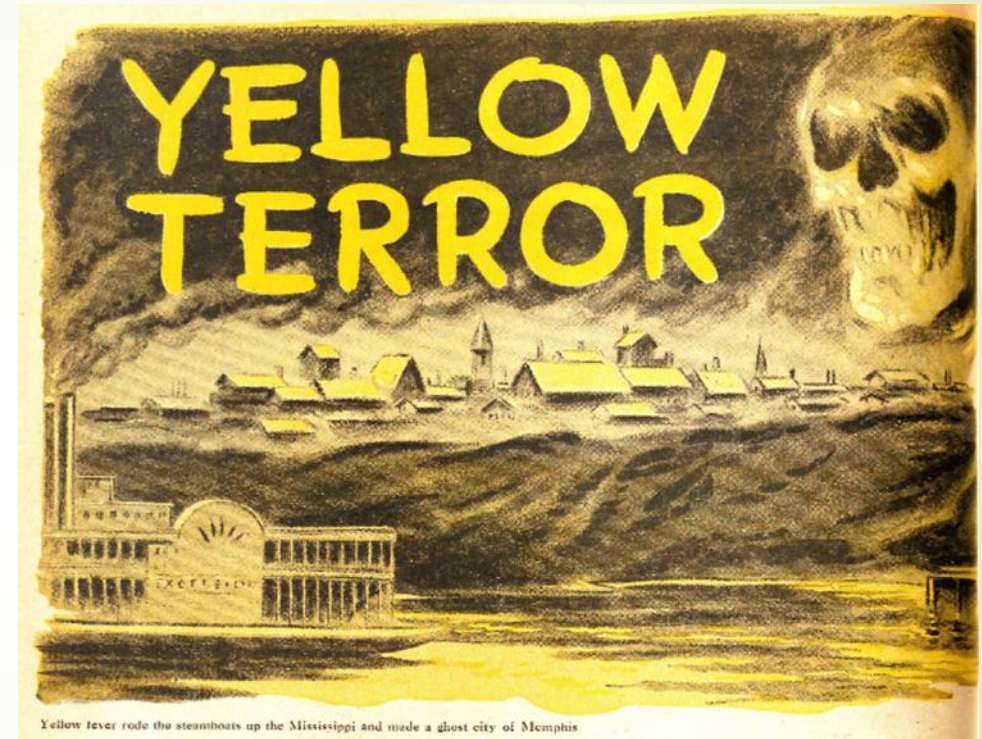
Yellow Fever Outbreaks in the United States

- Between 1793 and 1905 yellow fever was responsible for the most severe epidemic outbreaks of disease in the United States.
- Probably the best documented yellow fever epidemic struck Philadelphia in 1793. Between 4 – 5 thousand residents, or 8 – 9% of the city's population, died.
- By the 1840s, yellow fever had migrated from northern port cities to southern ones. The 1853 New Orleans epidemic claimed the lives of 8 – 9 thousand people, or 9 % of the population.
- By the mid-19th century, an understanding of yellow fever's mobility had not yet been fully explained. The earliest cases in east coast cities during the 1850s could all be traced to ships arriving from yellow fever-infested Caribbean ports.
- Several outbreaks during the 1870s reached further inland to cities connected through a growing rail system. The outbreaks culminated in the devastating 1878 epidemic during which about 20,000 people died, or 10% of the population in the lower Mississippi Valley.

Yellow Fever in Memphis in 1878



SCENE IN MEMPHIS—A HOWARD PHYSICIAN ON HIS ROUNDS.



Yellow fever rode the steamboats up the Mississippi and made a ghost city of Memphis

Yellow fever rode the steamboats up the Mississippi and made a ghost city of Memphis.

It was known as the Saffron Scourge of 1878.

Yellow Fever Outbreaks in Florida

- Originating in Cuba, an epidemic raged through Key West in 1887, then moved up the west coast to Tampa and across to Jacksonville. During the summer of 1887, Jacksonville reported 4,656 cases with 427 deaths.
- In the summer of 1888, the Jacksonville area experienced another devastating epidemic with 858 deaths, effectively shutting down the city.
- The epidemic caused the population to flee, scared tourists away for several seasons & cost the city thousands of dollars in commercial losses.
- Frank Leslie's frequently published reports on the epidemic between August - October 1888 fueled the panic and sold more newspapers. ("Yellow Fever in Florida"; "The Yellow-Fever Ravages"; "The Plague-Stricken South"; "Memphis Under Quarantine Rule"; "Under the Shadow of the Plague"; "Ancient and Modern Plagues".)

FRANK LESLIE'S
ILLUSTRATED
NEWSPAPER

No. 1,731—Vol. LXVII] NEW YORK—FOR THE WEEK ENDING SEPTEMBER 8, 1888. [PRICE, 10 CENTS. U.S. PATENT OFFICE, WASHINGTON, D.C.]



"GET BACK INTO THE CAR, YOU CAN'T STOP HERE!"
THE YELLOW-FEVER SCOURGE IN FLORIDA.—SCENE AT A RAILWAY-STATION: TURNING BACK REFUGEES.
FROM A SKETCH BY FRED. BOTT. AND PAGE 16.

Refugees Stopped from Leaving Jacksonville

Refugees traveling from areas with yellow fever were not allowed to leave the trains, for fear of spreading the disease.

Guard saying, "Get back into the car, you can't stop here!"

When citizens from Jacksonville tried to exit the city, the inhabitants of Waycross threatened to tear up the tracks if they were permitted to disembark.

At the same time, armed locals surrounded nearly every community and village in Florida and southern Georgia.

The yellow fever scourge scene at Florida railway station, turning back refugees, September 8, 1888. Illustration by unknown creator, published by *Frank Leslie's Illustrated Newspaper*. Courtesy of the General Reference collection, Florida Memory website, The State Archives of Florida.

Quarantine Notice

QUARANTINE NOTICE.

To Sanitary Agents, State Sanitary Patrolmen, State Port Sanitary Inspectors
of the State Board of Health of Florida, and the Public at large:

MARITIME.

I. By direction of the State Board of Health of Florida all MARITIME QUARANTINE restrictions imposed on travel and commerce against epidemic-contagious-disease infected ports, both foreign and domestic, during the Summer quarantine season, shall terminate at midnight on November 30, 1897, with the following exceptions:

(a) All baggage of second-cabin passengers from Cuban ports prior to entry into Florida shall be disinfected at a State or United States Quarantine Station during the entire Winter of 1897-8; and
(b) All baggage from New Orleans, Mobile and other infected points in the same latitude shall likewise be disinfected before entry into Florida by United States, State or city health authority, until otherwise ordered.

II. No bedding or household effects shall be brought from any port of the West Indies, South America or other foreign port that may be infected with an epidemic-contagious-disease to any port or place in the State of Florida.

INTERSTATE.

III. All INTERSTATE QUARANTINE restrictions on travel and commercial intercourse now in force between Florida and the States of Alabama, Mississippi and Louisiana shall be removed at midnight on November 30, 1897, with the exception of those restrictions on baggage herein mentioned, which shall be disinfected, and bedding and household goods (not new) which are absolutely forbidden entry into Florida, until further notice.

IV. The attention of all common carriers, railway and water transportation companies operating in Florida is directed to Section 771, Revised Statutes of Florida, and they are hereby required to refuse to accept for transportation into Florida from Yellow Fever infected points in Alabama, Mississippi and Louisiana any bedding which has been used and household goods (not new). All baggage from New Orleans, Mobile and other infected points in the same latitude shall be refused transportation into Florida until said baggage (viz: trunks, valises, chests and boxes containing clothing and wearing apparel) shall have been disinfected and bear a certificate of such disinfection from United States, State or city health authority.

JOSEPH Y. PORTER, M. D.,
State Health Officer.

PENSACOLA, Fla., Nov. 29, 1897.

- Poster underlining the quarantine regulations issued by the Florida State Board of Health to prevent the spread of yellow fever.
- Steamers & rail lines were forced to stop operations in Florida.
 - The Clyde Steamship Line stopped at Charleston & refused to send passengers to Jacksonville.
 - Railroads stopped in Savannah, Georgia or Waycross, Georgia.

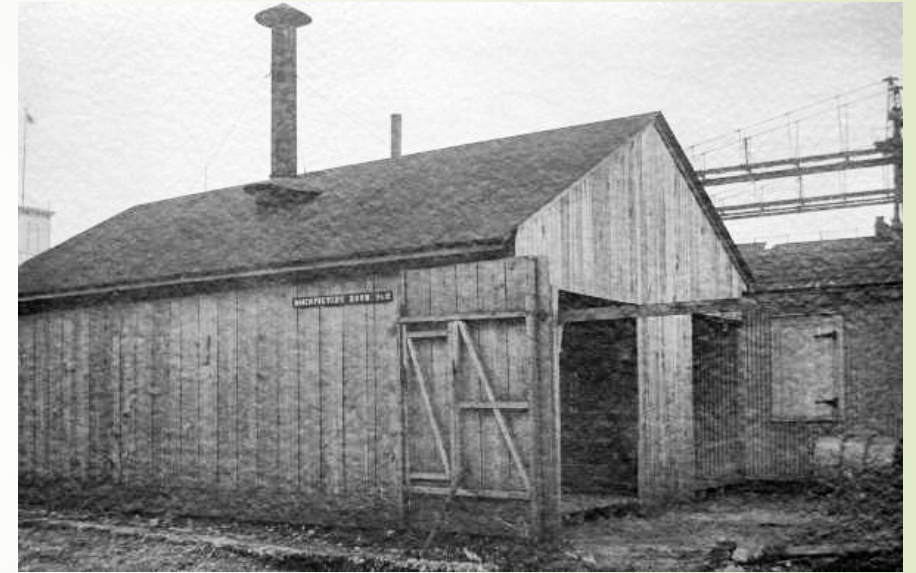
Courtesy of the General Reference collection,
Florida Memory website, The State Archives of Florida.

Fumigation Locations for Outgoing Florida Mail

U.S. Marine and Hospital Service ordered the establishment of fumigation Stations, with the Railway Mail Service designated to handle the job.



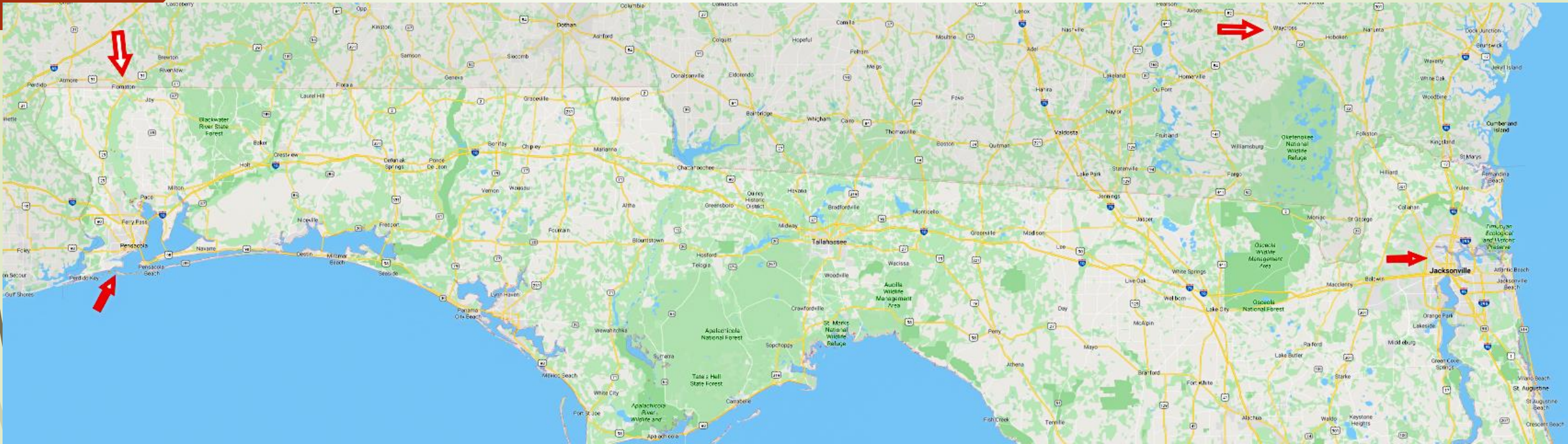
Fumigation paddle used to puncture a letter prior to fumigation



Fumigation building in Key West. At Waycross GA, Flomaton AL, and La Villa Junction near Jacksonville railroad cars were used for fumigation. Pensacola had a small fumigation hut at Bayou Grande Bridge for incoming mail to the Navy Yard.

Courtesy of the General Reference collection, Florida Memory website, The State Archives of Florida.

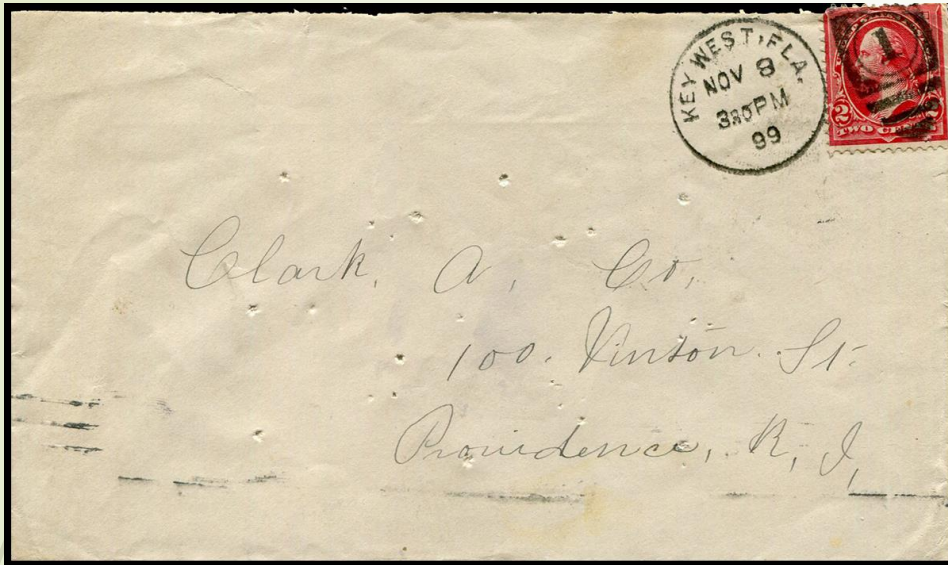
Fumigation Locations for Outgoing Florida Mail



On the West - Bayou Grande Bridge, Flomaton(Pensacola Junction)
On the East - Waycross, and La Villa Junction

State health authorities found it necessary to “place a sanitary guard around the entire city under the direction of the sheriff of the county, to prohibit anyone leaving the city” and possibly spreading the disease to other portions of the state.

Fumigation Locations for Outgoing Florida Mail

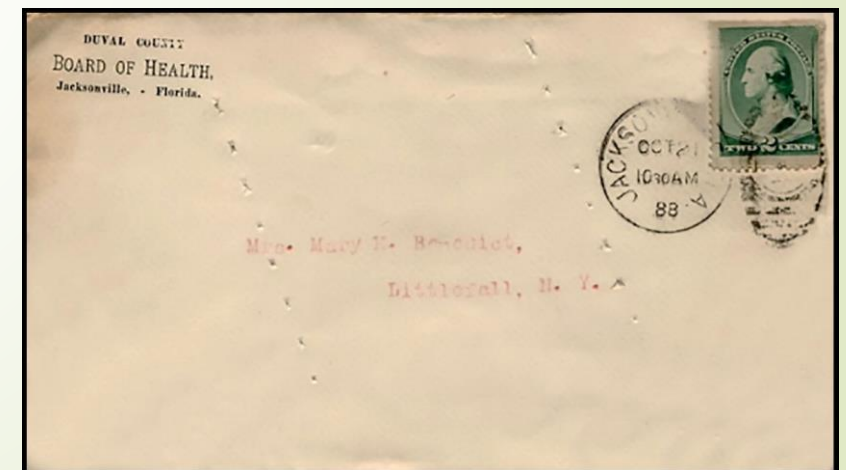


Fumigated at **Key West, Florida**

Seven mail clerks labored around the clock in Waycross exposing all mail to six one-hour doses of the sulfuric fumes. The dedicated crew worked so diligently, that the mail was not delayed more than one day in Waycross.



Waycross, GA. began operating August 13, 1888 & fumigated these covers from Yallaha and Jacksonville.



Fumigation Locations for Outgoing Florida Mail

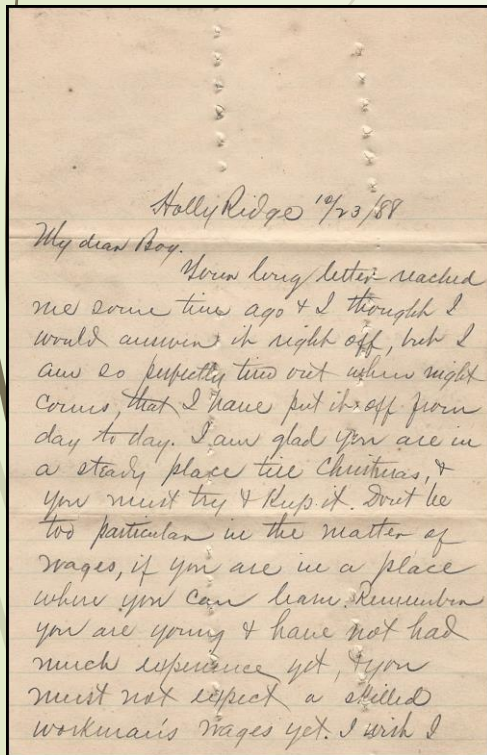


Pensacola complained sending mail to Waycross delayed its passage to New Orleans by several days. On August 20, 1888, a fumigation station was set up at **Flomaton, AL**, some 40 miles north on the Louisville & Nashville Railroad.

Compare this paddle pattern with the ones from La Villa Junction on the next slide.

Fumigation Locations in Florida

La Villa Junction, near Jacksonville,
began operation August 20, 1888.

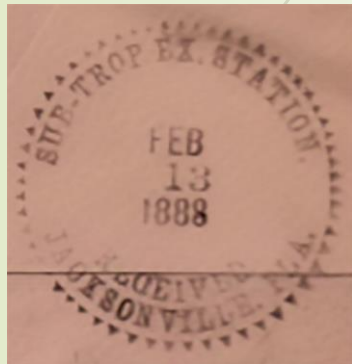


Fumigated at La Villa Junction,
Florida. Note the letter was
clearly perforated and thus
effectively fumigated.



This Monticello, Fla. cover is addressed to
Madison, Florida some 30-miles east. The
towns were connected by the Florida Railway
& Navigation Company Railroad, which also
connected them to Jacksonville. The letter was
carried to Jacksonville, fumigated at La Villa
Junction Station, then returned to Madison for
delivery. **Only intrastate cover known.**

Fumigated Exposition Covers

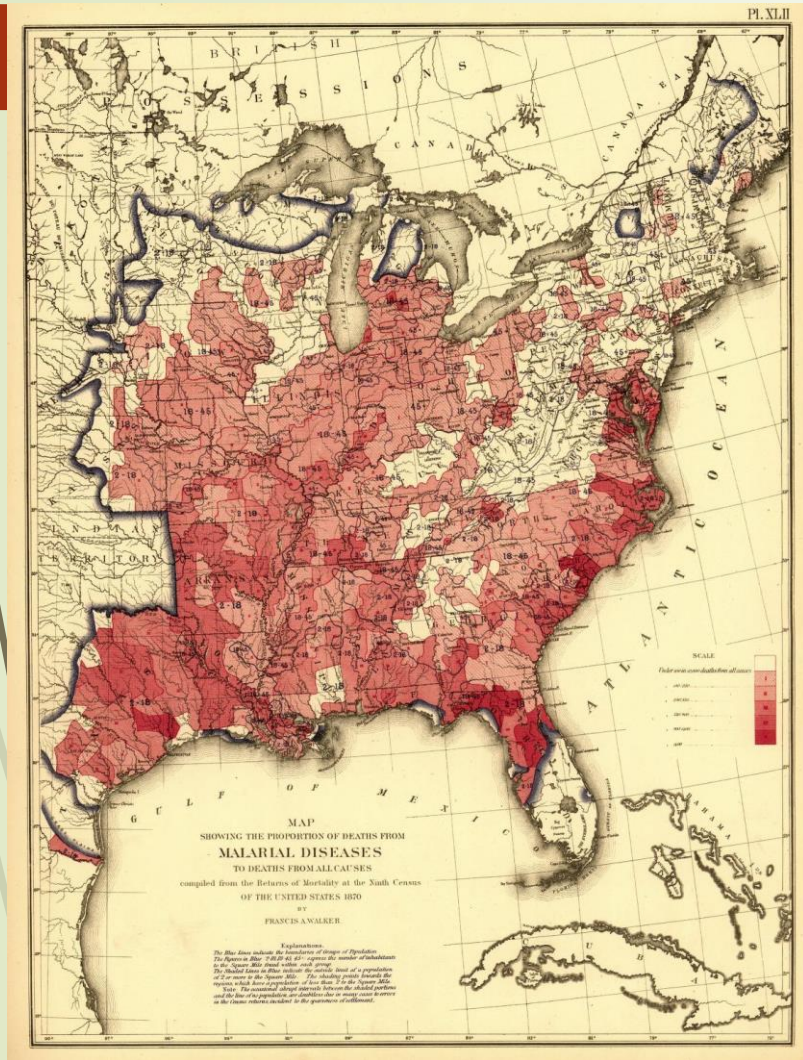


Illustrated Sub-Tropical Exposition cover with double circle handstamp in Jacksonville. Receiving handstamp shown on the left.



Cover from Manatee Florida to the Cincinnati Exposition Station of the Ohio Valley & Central States, Oct 8, 1888, fumigated at Flomaton, Ala.





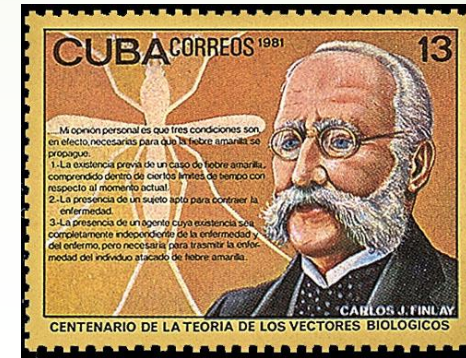
Map shows proportion of deaths from malaria (Intermittent Fever) to deaths of all causes, based on 1870 Census.

Sir Ronald Ross



- On 20 August 1897, in Secunderabad, India, doctor Sir Ronald Ross discovered the malaria parasite, while dissecting the stomach tissue of an *Anopheles* mosquito, which had previously fed four days on a patient with malaria.
- Believed to have been brought to the Americas by Europeans in the late 1600s, it primarily impacted those in the South & coastal cities.
- During the Civil War, over 1 million malaria cases reported which killed some 10,000 Union soldiers annually.
- The map depicts deaths from malaria in 1870; 10 years before the malaria parasite was even discovered.

Carlos Finlay and Walter Reed



In 1900, The U.S. Army Yellow Fever Commission sent Dr. Walter Reed to Cuba to study yellow fever (based largely on the work of Carlos Finlay).

He confirmed the disease was transmitted by *Aedes aegypti* mosquitoes, not by contact with those who were sick with the disease.

He developed a treatment and reduced the number of yellow fever cases.



FLORIDA MOSQUITO BORNE DISEASES

- Chagas Disease
- Chikungunya Fever (CHIK)
- Dengue Fever
- Eastern Equine Encephalitis
- Malaria
- St. Louis Encephalitis (SLE)
- Rift Valley Fever (RVF)
- West Nile Virus (WNV)
- Yellow Fever Virus (YFV)
- Venezuelan Equine Encephalitis.
- ZIKA

Summary

- Between 1793 and 1905, yellow fever was responsible for the most severe outbreaks of epidemic disease in the United States.
- Yellow fever and malaria were transmitted by mosquitoes from ships, steamboats and railroads. In 1888, refugees from areas with yellow fever were not allowed to leave the trains, for the mistaken fear they would spread the disease.
- Mosquitoes have done more to shape our history than most people realize. They restructured and reformed the cultural and political structure of the nation.
- **AND FINALLY.... DO NOT KEEP THEM AS PETS !!!!**

Acknowledgements

I would like to thank:

- Deane R. Briggs and Todd Hirn for several images of fumigation covers,
- Michael Pollock for information on Union Ships in the Civil War,
- Steven M. Roth for his detailed review of the presentation
- *Florida Memory website*, The State Archives of Florida, and
- *Harper's Weekly Newspaper* and *Frank Leslie's Illustrated Newspaper* for several images.

I hope you have enjoyed this presentation.



? Questions ?

Thank you.

One more slide!





JOIN ME !

**MOSQUITOES
NOT INVITED**

Early 1970s Smirnoff Vodka Advertisement