

# Yellow Fever at Miami: The Epidemic of 1899

by William M. Straight, MD

When 1899 dawned, the City of Miami was barely three years old, yet its 1,700 residents had already endured severe epidemic disease. Six months earlier, the Spanish-American War brought 7,500 U.S. Army troops to Miami, who, in turn, brought measles and typhoid fever. These diseases spread from the encampment to the townfolk and caused a significant number of deaths.<sup>1</sup> Mindful of this, the citizens hoped for better luck during 1899, but such was not to be. Ahead was an epidemic as mysterious and frightening to the Miamians of 1899 as the acquired immunodeficiency syndrome (AIDS) is to us today.

## An Exceedingly Clean Town

In the eyes of the State Health Officer, Miami was, “an exceedingly clean town, of rock foundation and wind-swept.”<sup>2</sup> The houses, mostly of frame construction, were widely spaced and the business district, chiefly along today’s Miami Avenue and Flagler Street, boasted two dozen brick and at least two concrete buildings.<sup>3</sup> Within the city limits there were eighteen miles of smooth streets paved with rolled, crushed rock. Miami’s boundaries at the time were Eleventh Street on the north; Seventh/Eighth Avenue on the west; Fifteenth Road on the south; and Biscayne Bay on the east.

Only a few paved roads extended to the surrounding communities beyond the city limits. There was a road through the Brickell Hammock and along the bayfront that was described as “a thing of

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beauty and a joy forever to tourists, bicyclists and others.”<sup>4</sup> Northeast Second Avenue, the road to Lemon City, situated five miles north of Miami, was paved as far as Buena Vista (Northeast Forty-first Street), as was the road to the bridge over Wagner Creek, with an extension nearing completion to the “Golf Grounds” (now the site of the civic center and hospital complex along Northwest Twelfth Avenue). Other than these, the roads beyond the city limits were rough, rocky wagon roads, horse trails and footpaths.

Only one bridge crossed the Miami River — a crude wooden drawbridge with a sliding draw — at the foot of Southwest Second Avenue. On the south side of the river, Second Avenue continued as far as Eighth Street, which was paved east to Brickell Avenue, which ran south to Coconut Grove.

For the most part, land travel within the city limits was by foot or bicycle. Beyond the city limits, where paved roads existed, the bicycle was popular together with horses, buggies and carriages. The physicians of the Miami area made calls in Coconut Grove, Lemon City and Little River by these modes of transportation. The advent of the automobile in Miami was still two years away.

Travel by boat was common, particularly if the distance to be covered was great or a large load was to be transported. Many families had sailboats, some had ocean-going schooners, and a few, naphtha



**Downtown Miami, 1899.** This street scene depicts the cleanliness of the city. (HASF x-217-x)

launches. Large sailing ships and steamboats from distant ports called at the Port of Miami bringing passengers and cargo on regular schedules.

By 1899, Miami boasted an inexhaustible supply of fine water from "a spring in the Everglades" near the rapids in the river (about Northwest Twentieth Street, one-fifth mile west of Twenty-seventh Avenue). Miami also had one-and-a-half miles of sanitary sewer with an outfall in the river at the foot of Miami Avenue. Most of the householders, however, were dependent on privies, the buckets of which were to be emptied at least weekly by the city scavenger. Electricity from the generators at the Royal Palm Hotel was available to homes and businesses in the downtown area. Telephones came to Miami in February 1899.<sup>5</sup>

### Four Physicians In Miami

The young city had the services of four physicians: James Mary Jackson, Peter Thomas Skaggs, Edwin Worth Pugh and Ruben Harrison Huddleston. Beyond the city limits were John Gordon DuPuis and Henrietta W. Martens in Lemon City and James W. Jackson and Eleanor Galt Simmons in Coconut Grove.



In the spring of 1899, preparations were underway to build a City Hospital at Northeast Ninth Street and Biscayne Boulevard on land donated by Henry M. Flagler. He also contributed \$4,500 toward construction with the proviso that the city equip and manage the hospital.<sup>6</sup>



Meanwhile, in the spring of 1899, Miami's physicians were occupied with routine doctoring. There were the usual obstetrical cases, respiratory and



**The four doctors of Miami (clockwise from top left): Dr. James M. Jackson (Courtesy of Dr. William M. Straight); Dr. Peter Thomas Skaggs (Courtesy of Miss Virginia Skaggs); Dr. Ruben Harrison Huddleston and Dr. Edwin Worth Pugh (From *History of Medicine in Dade County, Florida*, by Dr. John Gordon DuPuis).**

urinary tract infections, rattlesnake bites, accidents resulting in dislocations or fractures, knife and gunshot wounds from drunken fights, and hernias that sometimes became strangulated and required surgery. Tuberculosis was always in the community as people with the disease came to Miami hoping to get well. There were occasional abdominal infections (possibly appendicitis or diverticulitis of the colon) that lead to abdominal abscesses which had to be drained. For instance, on Wednesday, April 26, 1899, Drs. Eleanor Galt Simmons and James M. Jackson drained a liver abscess from which Claude Rose had been suffering five months.

Then, too, there were cases of fever. On April 7th, *The Miami Metropolis* noted that Mrs. Harry Budge, wife of the city's hardware dealer, "is resting more easily, the fever having been abated." Two weeks later, the paper stated that this was a case of typhoid fever. In June, another case of typhoid was reported in the illness of Ed Hinckson who lived on the Miami River. Although several Miami pioneers speak of a typhoid epidemic in 1899, these are the only mentions of typhoid in the newspaper of 1899; perhaps they are thinking of the epidemic of 1898.

## The First Scare

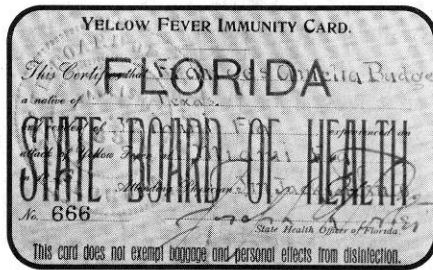
Starting about mid-July and continuing through September, there were many cases of fever, particularly in the area of the city known as "the Hammock,"<sup>7</sup> which Dr. Jackson diagnosed as dengue fever.<sup>8</sup> Jackson's diagnoses were corroborated by Dr. J. Louis Horsey, Assistant State Health Officer, and later by Dr. Joseph Yates Porter, the Florida State Health Officer, both of whom had extensive experience with epidemic dengue.<sup>9</sup> However, only the barest mention of fever appears in the *Metropolis* and never the word, "dengue." Although Jackson later said he had 200 or 300 cases and that the other physicians took care of 100 more, none of them mentioned dengue lest the populace panic thinking the epidemic was in reality yellow fever.<sup>10</sup>

Yellow fever was a scourge in Florida about every two years during the nineteenth century. A small number of cases were known to be present in Havana year around. Therefore, in February 1899, well before the "fever season," Dr. James M. Jackson, Health Officer of the Port of Miami, was ordered to fumigate all second class baggage arriving

from Havana.<sup>11</sup> One month later, on March 31, a formal quarantine of Miami against Havana was announced — this had been standard practice since the city’s incorporation. The wooden-hull steamer *Lincoln* was replaced by the steel-hull steamer *Miami* on the Miami to Havana run, possibly because wooden-hull vessels were thought more likely to hold the contagion of yellow fever.<sup>12</sup>

On August 11, yellow fever broke out in the Soldier’s Home, Hampton, Virginia, among soldiers recently returned from duty in Havana. Two weeks later, the first case of yellow fever was discovered in Key West. Jackson was notified of this occurrence on August 31, prompting him to order the institution of a quarantine against expected refugees from Key West. The quarantine went into effect on September 1.<sup>13</sup>

About September 2, the steamer *Santa Lucia*, carrying fumigating equipment, took up station in the mouth of the channel at Cape Florida.<sup>14</sup> Persons living on the Keys who wanted to make purchases in Miami placed their order at this quarantine station, and the orders were taken by “immunes” to town and brought back to the station. All craft entering Biscayne Bay were stopped, fumigated and required to remain in detention from five to seven days. If no sickness appeared, the craft was permitted to proceed up the bay to Miami. Among the first parties intercepted was a group of Miami mechanics who had been working in Key West and had fled under cover of darkness. When they arrived at the bay, they were stopped and placed on Soldier’s Key in Biscayne Bay where they battled hordes of mosquitos for a week before entering Miami.<sup>15</sup> Another hapless detainee was Captain Charles John Peacock of Coconut Grove who was returning from Key West with a schooner load of stable manure to sell to the farmers. He had to dump the manure in the bay and



**Yellow Fever Immunity Card, signed by Dr. James M. Jackson. (Courtesy of Dr. William M. Straight)**

remain aboard his ship at the quarantine station until Jackson was satisfied he was not importing yellow fever.<sup>16</sup> Buoys carrying yellow flags were anchored in south Biscayne Bay and guards placed along the shoreline at Cutler in South Dade and Coconut Grove to prevent refugees from landing. Fishermen, allowed to troll the bay for mackerel, brought their catch to the mouth of the River where they blew a conch horn signalling employees of the Cockran and Fog fishhouse to row out and buy the catch. If a sportsman wanted a day of sailing on the bay, he was required to obtain a permit from Jackson or his designee.<sup>17</sup>

Around the perimeter of the city, guard stations — tents with shotgun-carrying guards — appeared about September 18. Alfred Kemp recalled one “at the rockpit just above Seventeenth Avenue” (possibly C. J. Rose’s rockpit), one guard station at Fisher’s corner (Southwest Eighth Street at Twenty-second Avenue) and one at McKenzie’s corner (Northwest Seventh Street at Twenty-second Avenue).<sup>18</sup> There were also guards on the roads leading from the Allapattah Prairie, Little River, Lemon City and Buena Vista. A guard station stood at the approach to the bridge on the south bank of the river. When Maude Richards Black was to be married to Charles F. Seibold on October 16, she was not allowed to cross the bridge into Miami. Her groom, having contracted yellow fever during an outbreak in the Miami River community in September 1873, and thus an “immune,” could cross the bridge, but Maude could not. To solve this sticky point, they were married at the United States Experiment Station (Southeast Thirteenth Street and Brickell Avenue).<sup>19</sup> It was an axiom that yellow fever conferred immunity for life. Accordingly, people who could document an earlier bout with yellow fever or who had lived for ten years in areas where yellow fever was endemic were given Immune Cards. By showing these to the guards they could enter or leave the city at will.

*The Miami Metropolis* repeatedly exhorted Miami’s citizenry to clean up their premises since rubbish and offal as well as human waste were thought to harbor the yellow fever contagion. Since privies and water closets were believed to be sources of foul air in which the germs lived, they had to be kept sweet and clean. Citizens remained indoors after dark until sunrise because it was thought the fever could be caught more easily at night. Business houses closed at four in the afternoon. People who lived just outside the city limits were passed by the guards, provided they went out of (or into) the

city after sunrise and returned to their home before sunset. Trains manned by "immune" crews brought in food and supplies and took out produce, but only passengers with Immune Cards could travel on the trains. Clothing and fabrics had to be fumigated before shipment, but other manufactured goods did not.<sup>20</sup>

## Yellow Fever Strikes!

By September 2, dread of the scourge spread among Miami's populace after the first case of yellow fever entered the city from Key West. On its regular run, the steamship *City of Key West* arrived in the morning of August 31, and discharged two passengers. On September 2, Dr. Jackson was able to track down both passengers and found one, Samuel R. Anderson, in bed with fever. Anderson had developed a chill followed by fever in the evening of his arrival and had remained in bed, though improving, until the day of Dr. Jackson's visit. Dr. Jackson believed Anderson's illness was yellow fever because of the absence of severe muscle pains, the presence of albumin in the urine and his recent residence in Key West. He immediately confined Anderson and his entire family to the house and placed two "immunes" as guards to prevent anyone from entering or leaving the house. The physician wired Dr. Horsey, who arrived in Miami on September 4, and immediately confirmed the diagnosis. Dr. Horsey had extensive experience with yellow fever, but none of Miami's four doctors had seen a case up to that time. Anderson, his wife and two daughters were put aboard the *Drummer*, a small schooner, and sent over to Bear Cut for an eighteen-day quarantine. "Upon the removal of these people, all of their beds and bed clothing was [*sic*] destroyed by fire."<sup>21</sup> The house was fumigated, the yard cleaned and the ground, even under the house, wetted down with bichloride of mercury solution and coated with lime.<sup>22</sup>

## Panic Reigns

Yellow fever was a dreaded disease; in some epidemics, upwards of sixty percent died.<sup>23</sup> Did the people panic? Dr. DuPuis recalled that:

A great number of citizens became panic-stricken and left town regardless of the quarantine, some riding bicycles, some on horses and in wagons and many by foot.... There was a young pioneer attorney who took to his heels and left Miami so fast that it was reported in conversation that "He was going at such a rapid pace down the path, when a Molly Cottontail jumped up in front of him, he yelled 'Rabbit, get out of my way if you can't lead the pace.' It was reported, 'the rabbit escaped to the side and he proceeded northward very rapidly.'"<sup>24</sup>

In the local press there are repeated statements that there was no panic. Some people, however, decided to go north to visit relatives or took an extended cruise on a seagoing vessel. Others, including John Seybold, a prominent baker, pitched tents in the pine and palmetto woods beyond the city limits where they spent the nights, coming into the city after sunrise to take care of business. It was believed that sleeping in the woods, away from the city, avoided the contagion that caused yellow fever.<sup>25</sup>

The disease struck again when I. R. Hargrove, a dancing instructor at the Hotel Miami, became sick about September 19, after spending the night aboard the cattle boat, *Laura*, moored at the city dock at the foot of today's Miami Avenue.<sup>26</sup> Hargrove was taken to his room on the second floor of the Hotel Miami, where he was seen by Drs. Jackson and Horsey and nursed by friends, but ultimately died on September 26. The hotel was promptly quarantined, the occupants and anyone who had contact with Hargrove sent to detention aboard the quarantine vessel, the *Santa Lucia*, and the Hotel Miami disinfected, "using bichloride of mercury wash, sulphur dioxide fumes and formaldehyde gas, first pasting all openings and making the building as air-tight as possible."<sup>27</sup>

## Scare Is Over

Starting September 26, the sheriff and doctors carried out daily canvasses. When no new cases appeared, the canvasses were discontinued after sixteen days. The editor of the *Metropolis* believed the "yellow fever scare is over."<sup>28</sup> Restrictions on travel and business were relaxed and citizens breathed a sigh of relief, but the relief was short-lived.



Two other persons who had been aboard the steamer *Laura* developed mild cases of yellow fever, while James Flye, a third passenger, died with renal failure. His illness was so suspect that Dr. Horsey performed an autopsy in the middle of the night (October 16), with Drs. Jackson and Skaggs and several citizens present. Although there were some dissenters, the final decision was yellow fever.<sup>29</sup> On October 17, Philip DeHoff, a clerk at the Hotel Miami who had nursed Hargrove, became sick with undoubted yellow fever. He had returned to the Hotel Miami after remaining in detention on the bay several miles south of Miami with the other hotel occupants for a suitable length of time. But within five days of his return, DeHoff became sick.<sup>30</sup>

### **Quarantine Is On Again**

At this time, Dr. Robert Drake Murray of the United States Marine Hospital Service, a noted authority on yellow fever, visited Miami and publicly announced the existence of seven active cases. Only then, did Dr. Porter officially acknowledge the presence of yellow fever in Miami, and ordered a rigid quarantine against the rest of the state. Porter pronounced Philip DeHoff as the "first case" of the epidemic; later he amended this to I. R. Hargrove. Sam Anderson was not recognized as such since he had been so quickly segregated from the community and because nearly three weeks had elapsed before Hargrove became sick.<sup>31</sup>

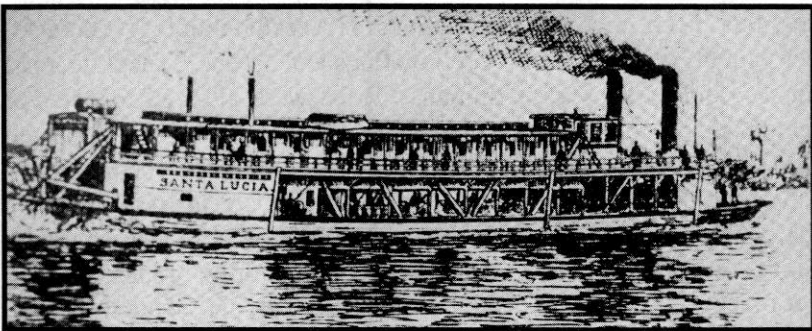
Most physicians believed the chief manner in which yellow fever spread was through contact with a victim, his clothing, bed-clothes or other items; a few favored the foul air theory. For Miami-ans, this meant increased restrictions. Houses containing yellow fever patients were marked by yellow flags and no one, except doctors, nurses, and persons with Immune Cards, were allowed to enter or leave them. Quarantined residents made out grocery lists and posted them on a tree or fence for neighbors who shopped for them. On returning, the neighbor set the supplies in the yard for pickup. Upon the patient's recovery, the house and its contents were disinfected by fumigation and the yard wetted down with bichloride of mercury then sprinkled with lime. Only then were the patient and residents of the house free to circulate in the city. Early in November, fumigation of outgoing mail was instituted.<sup>32</sup>

Believing that depopulation of the city was a quick way to stem the epidemic, Porter, with the approval of the railroad, offered through-ticket transportation to Hendersonville, North Carolina, which had agreed to accept refugees. Escape to the mountains was a time-honored method in fighting yellow fever. Porter's offer was contingent on at least forty fares being in hand by October 24, because the connecting lines north of the Florida border would not accept less than this number. Although the fare was only \$24.50, not enough applicants came forth.<sup>33</sup>

In late October, new cases began to spring up in all quarters of the city. The number mounted daily, with as many as eight new cases on several days. J. K. Dorn, who made rounds with Jackson, posted the names of new cases, as well as deaths, each day on a blackboard outside Townley Brothers Drug Store. As the cases mounted, so did the deaths. Edwin Nelson, the furniture store owner who sold coffins as a sideline, was frequently seen riding with "White Horse Douglas" who owned and drove the dead-wagon. Some parents were so devastated by the scourge that there was no one to look after the needs of their children. To manage this problem the Miami Relief Association, the United Way of that era, opened a home specifically for the care of these children until their parents were sufficiently recovered.<sup>34</sup>

## Detention Camps Established

On October 27, Camp Francis P. Fleming was established "about where the Rickenbacker Causeway is today."<sup>35</sup> The detention camp



Steamer *Santa Lucia*, main vessel of Camp Francis P. Fleming, a detention camp for yellow fever patients. (Florida State Archives)

consisted of the steamer *Santa Lucia*, which had apparently been brought up from Cape Florida, and a cluster of smaller vessels. Dr. Horsey was in charge of the facility, which could accommodate forty to sixty residents. Miamians exposed to yellow fever or desirous of leaving the city were detained there for about ten days. If they had shown no signs of the disease at the end of this period, they were taken by boat to Lemon City, which was beyond the quarantine line, and were free to leave for points north — but not south. If, however, they exhibited signs of the disease, as happened on two occasions, they were taken back to Miami for treatment. After having served about forty retainees, Camp Fleming closed around November 6, and Camp William E. McAdam, a second, more adequate detention camp was opened at Fulford, twelve miles north of Miami, on November 2.<sup>36</sup>

Initially, Camp William E. McAdam accommodated sixty residents, both blacks and whites, but it was later expanded to accommodate over 100 internees as the demand increased. The tent camp was pleasantly situated in “the orange grove of Judge [P. W.] White of Quincy.”<sup>37</sup> The tents were arranged on orderly streets, which were illuminated at night with oil lamps. In the packing house of the grove, a kitchen and dining room were set up, which the camp guests dubbed the “Hotel de Stimpson,” after the camp’s chief medical officer. It was said that they were served gourmet food rather than the standard army rations. The “hotel” also served as an entertainment center for dances, skits and other activities. The medical staff consisted of W. G. Stimpson, Passed Assistant Surgeon of the U.S. Marine Hospital Service, and Assistant Surgeons Rudolph von Ensdorf and A. R. Hagan. There was also a “dental tent,” presided over by Dr. Gillespie Enloe, who brought a complete set of instruments from his office in Miami.<sup>38</sup>

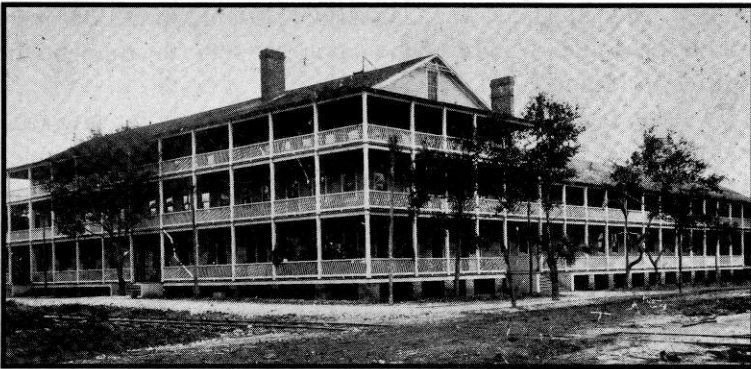
The camp consisted of three sections: the asymptomatic section described above, the suspect section for inmates with vague symptoms, and the hospital section, located some distance from the other sections. Physical “inspection” of each camp inmate was carried out at 9 a.m. and 3 p.m. daily. When a suspect’s condition was determined to be that of yellow fever, he or she was promptly hauled away in the ambulance, a wagon “formerly used by the New York Bakery.” Three (possibly five) yellow fever victims were hospitalized at the camp in its brief existence. Those who did not develop yellow fever were released after ten days of detention, but were not allowed to

return to Miami until after the quarantine ceased. The camp finally closed on December 2.<sup>39</sup>

Meanwhile, back in Miami, the situation grew worse daily. The need for a hospital became urgent. The City Hospital, built at Northeast Ninth Avenue and Biscayne Boulevard, was completed shortly after September 22.<sup>40</sup> Badgered by the expenses of the epidemic, however, the city had no funds to carry out its part of the bargain originally promised to Henry Flagler. An appeal was made to the State Board of Health but their coffers were empty. Thus it appears that this hospital did not take patients during the epidemic of 1899. There might have been another reason for the fact that this new building, whose construction cost \$7,805.64, was not used — to avoid contaminating it with yellow fever.<sup>41</sup>

### Emergency Hospital Built

Into the breach stepped W. W. Prout, a civic minded contractor and secretary of the Miami Relief Association. He agreed to build an Emergency Hospital, paying for it out of his own pocket and awaiting repayment, if any came. During a downpour on Sunday, October 27, Prout's men began construction of the facility, completing it the following Wednesday, with water and sewer connections in place, and ready to receive patients. The single-story frame building, which measured 18 by 88 feet, extended along Northeast First Avenue from Northeast Third Street to Fourth Street. The hospital consisted of "four wards, [an] office, baths and full working equipment."<sup>42</sup>



**The Hotel Miami, built in 1896, served as a hospital for yellow fever patients. (HASF 75-25-143)**

There was a wing "suitable for cooking purposes with range and all conveniences provided."<sup>43</sup> Mr. Flagler paid for immune nurses (male and female; black and white), who were recruited in Jacksonville and Key West, to staff the hospital as well as serve in the community. He also reimbursed Mr. Prout for the cost of the hospital building (\$1,000). The hospital accepted both black and white patients, chiefly indigents who had no proper place to receive food, lodging and medical care.<sup>44</sup>

Dr. Porter took charge of the Emergency Hospital and the four doctors in the community gratuitously gave their assistance in the care of indigent yellow fever victims, both in the hospital and in the community. No deaths occurred at the hospital.<sup>45</sup>

It appears that after the epidemic ended the Emergency Hospital building remained empty. *The Miami Metropolis*, for December 7, 1900, carried an advertisement: "F. W. Hahn is authorized to sell the hospital building on Avenue C [Northeast First Avenue]. Apply quick [*sic*] for a bargain in lumber."

After Hargrove died on September 26, and the Hotel Miami was thoroughly fumigated, one of its three floors was used as a hospital for yellow fever patients. On November 12, while five patients were convalescing in the hotel, fire broke out. Although the patients and attending personnel were safely removed, the three-story, Dade County pine building, hosting the fledgling city's first hotel, was a total loss in just thirty minutes. The fire also destroyed five surrounding buildings.<sup>46</sup> Rumors spread that the hotel had been torched by an arsonist to get rid of the contagion within its walls. These rumors were promptly squelched when it was determined that the fire began in the room of a yellow fever patient, Mrs. Pell, whose attendant inadvertently upset a "blue flame oil stove."

## Treatments and Remedies

In the treatment of yellow fever, the experts recommended first a mild laxative — Compound Cathartic Pills (colocynth, jalap, calomel and gamboge). If no bowel movement occurred in six hours, the patient was given Epsom salts or castor oil, followed by a hot bath to induce sweating, after which the patient was given a coal tar product (Antifebrin, Antipyrin), soda and caffeine to lower the fever. For nausea, an attendant rubbed the neck and temples with ice or gave one-quarter grain of cocaine in tablet-form. For sleeplessness,

a patient received chloral hydrate (today known as Noctec). If the patient was threatened with circulatory collapse, he or she received an enema of turpentine and whiskey. R. D. Murray, the yellow fever specialist, customarily started treatment with sixty grains of quinine because he felt that yellow fever was commonly associated with malaria and a "little" quinine would not hurt.<sup>47</sup>

Laymen, who sometimes treated patients, did not have such an elaborate therapy. Dorn described the treatment he and others administered to Oscar Nicholson:

There was a fellow with us... a big strapping man. Suddenly he had a terrible chill. We immediately rushed him to his room, got a bucket of boiling water in which we placed his feet, put him to bed with several blankets over him, a mustard plaster on his stomach and cracked ice around his throat and at the top of his head. In a few minutes he was delirious. It took six of us to hold him in bed. He would yell... you could hear him in Cuba. The six of us held him in bed for five hours until he finally dozed off from weakness. The next morning he was convalescent. He was fed mostly on liquids and especially a tea made from roasted watermelon seeds which we thought in those days was a cure for yellow fever.<sup>48</sup>

By late November to early December, the epidemic began winding down with fewer new cases appearing. At this time, the editor of the *Metropolis* commented, "The infection has now spread to the colored section [today's Overtown] where the greater portion of the new cases are coming from."<sup>49</sup> Blacks were generally thought to be relatively resistant to yellow fever.

In anticipation of the lifting of the quarantine, scheduled for about December 15, the *Metropolis* published a Proclamation by Mayor John B. Reilly exhorting all citizens to clean up their premises. All bedding and bedroom furnishings must be sterilized at the state disinfecting plant on board the steamer *Santa Lucia*, which "had been brought up to the stone pier for that purpose."<sup>50</sup> The fumigation plant exposed the bedding and clothing to superheated steam and formaldehyde gas. Captain Ridley Curtis Pinder recalled that his suit came apart from this and was ruined. All single-story dwellings must be fumigated and "several cheap ones" burned.<sup>51</sup>

Despite the optimism, new cases continued to appear, albeit less frequently. A light frost occurred on Christmas Eve, a sure sign that the end of the epidemic was near. The last new case appeared on New Year's Day, but the quarantine was still in place.

During the night of January 5, 1900, thieves robbed Frank T. Budge's Hardware, on the northeast corner of Flagler Street and Miami Avenue. They set the building afire, ostensibly to cover the theft. Word of the fire reached John Sewell, who had just returned from a buying trip to New York and was staying at Buena Vista because of the quarantine. Sewell, whose haberdashery was located in the Biscayne Hotel building, just across Flagler Street from the Budge Hardware Store, later wrote:

I knew I had to get down to my store in some way, but I didn't know how to get beyond the quarantine line. I hopped on my bicycle ... and decided if I stopped to argue with the guard he wouldn't let me past, so I just went past him full tilt. It was about 1:30 a.m. then, and the guard was hardly awake before I was past. I heard him shout at me, but I kept pedalling on.... the health authorities were in a quandary over my getting past the quarantine line. They didn't want to let me stay in town for fear I would bring further yellow fever infection in....the health authorities finally settled matters by allowing me to stay at my store during the daytime. But I had to return to my lodgings at Buena Vista at 4 p.m. and remain there until 8 a.m. the next day.<sup>52</sup>

## **Quarantine Finally Lifted**

The quarantine was finally lifted on January 15, 1900. Only then did the *Metropolis* editor admit, "When the first scare was reported a general stampede occurred, but when the real epidemic had fastened itself upon us, our people deported themselves wisely and thoughtfully, as always characterizes all good Miami citizens."<sup>53</sup>

With the lifting of the quarantine, the city came alive! Optimism and jubilation reigned. Citizens and whole families caught outside the quarantine, such as William M. Burdine and his family, came streaming back. The wondrous Royal Palm Hotel opened in time for its fourth season, and the Miami Transfer Company bought new equipment:

In their stables we found 15 new surreys, buckboards, landaus, carriages and phaetons, all of the latest patterns and handsome beyond description, worth from \$300 to \$500 each.... Thirty-six head of horses were shipped from Niagra Falls last Saturday and are expected to arrive here at once....[The] company is looking forward to the best winter business in the history of Miami.<sup>54</sup>

## The Statistics

Although the first case appeared on August 31, according to the published record, the yellow fever epidemic in Miami officially began October 17, 1899, and ended January 15, 1900. There were 220 cases, with 13 percent of the city's residents infected; 14 deaths resulted, which was a mortality rate of 6.4 percent of the city's populace.

For the most part the epidemic remained localized; there were no cases in Coconut Grove, Buena Vista, Lemon City or Little River.<sup>55</sup> One citizen attributed the confinement of the disease to the "Miami River Valley" to the emptying of sewage into the river. He suggested a sewer outfall in the bay at the foot of Flagler Street and as far out as the ship channel. He also suggested that the falls in the river, located near its headwaters less than five miles west of downtown, be "blown up" to drain the Everglades and produce a more vigorous flow that would carry away the sewage that caused "the polluted vapor from the river settling on the city through the night and early morning."<sup>56</sup>

## Epilogue

Four physicians appointed by the Surgeon General of the United States Army, commonly referred to as the Reed Commission, conducted medical research experiments in Cuba. In 1900, their experiments proved conclusively that mosquitoes transmitted yellow fever, a hypothesis long championed by Cuban physician, Carlos J. Finlay.<sup>57</sup>

On October 27, 1900, the Reed Commission announced its findings: "The mosquito serves as the intermediate host for the parasite of yellow fever, and it is highly probable that the disease is only propagated through the bite of this insect."<sup>58</sup> The specific mosquito



identified as the carrier was then known as *Stegomyia fasciatus*; today we know it as the *Aedes aegypti*.<sup>59</sup>

This discovery explained several bits of time-honored yellow fever folk wisdom. The *Aedes aegypti* was found to be an urban mosquito which bred in stagnant collections of water commonly found around human habitations: in discarded jars, cans, cisterns, roof drains and catchment basins. This explained the predominance of yellow fever in cities, as well as the fact that ships sometimes carried yellow fever from tropical ports — mosquitoes bred in the water casks and bilge.<sup>60</sup>

The belief that leaving the city before sunset and returning after dawn to avoid contracting yellow fever was also explained by this discovery — the *Aedes aegypti* is a night biting mosquito. It became clear why taking refuge in the mountains helped to avoid infection, and why the first good frost usually marked the end of an epidemic — the *Aedes aegypti* is quickly killed by cold weather. The Reed Commission found that the yellow virus must incubate in the mosquito's digestive tract from nine to thirty days before the mosquito can pass it on, which explained the delay between the Anderson case and the start of the Miami epidemic. Finally, the close and confusing association of yellow fever and dengue fever was clearly evident — they are both transmitted by the *Aedes aegypti*.<sup>61</sup>

Whereas public health physicians welcomed the discovery, they were slow to abandon their sterilization/fumigation stations and the practice of quarantining vessels leaving tropical ports during the spring, summer and fall. When Florida's final yellow fever epidemic occurred in Pensacola in 1905, it was quickly contained by isolation of patients under mosquito netting and vigorous measures to eradicate mosquitos. However, even in 1905, a few physicians and many laymen insisted on extreme measures, such as requiring that Florida oranges be shipped in screened boxcars when they passed through Arkansas. The Florida ports of Apalachicola and Carrabelle even refused to allow a cargo of brick and gasoline to be landed despite the ship having been cleared by the State Board of Health.<sup>62</sup>

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Paul George, Sam Boldrick (Florida Collection, Metro-Dade Public Library), and Becky Smith and Dawn Hugh (Research Center of the Historical Museum of Southern Florida).

## Endnotes

1. William M. Straight, "Camp Miami, 1898," *Journal of the Florida Medical Association* 74 (July 1987): 504-13 (hereinafter *JFMA*).

2. Joseph Yates Porter, *Eleventh Annual Report of the State Board of Health of Florida, Jacksonville, March 15, 1900*, 88 (hereinafter *Report, SBH, March 15, 1900*).

3. Howard Kleinberg, *Miami The Way We Were* (Tampa: Surfside Publishing, 1989), 106-107. The original number/naming of Miami's streets was changed in October 1920. Throughout this paper locations will be noted as on today's map.

4. *The Miami Metropolis*, May 27, 1898, 1.

5. A person appointed by the City but paid by each householder to pickup the privie buckets and empty the contents at a suitable place.

6. "Our New Hospital." *The Miami Metropolis*, April 21, 1899, 2. Construction began about May 19, 1899, and was completed shortly after September 22, 1899; see *The Miami Metropolis* on those two dates.

7. The area where the original dense, tropical hardwood forest remained at that time; roughly Northeast Second Avenue to the bay from Flagler Street to Northeast Sixth Street. There dwellers lived in small, poorly built houses and shacks and were dependent on shallow surface wells and privies. See *Annual Report of the Supervising Surgeon of the Marine-Hospital Service of the United States for the Fiscal Year 1899* (Washington, D.C.: Government Printing Office, 1901), 731-33.

8. Dengue fever is a virus infection characterized by chills, fever, severe headache, pains in the muscles of the back and extremities and a rash on the trunk spreading to the extremities. It is also called "breakbone fever" because of the severity of the pain. In 1899, dengue was frequently confused with yellow fever, but the appearance of the rash, absence of albumin in the urine, together with the rarity of death usually meant the disease was dengue rather than yellow fever.

9. Jackson's Report to Porter, January 20, 1900, *Report, SBH, March 15, 1900*, 46.

10. *Ibid.*

11. Hereinafter "Dr. Jackson" or simply "Jackson" will be used to indicate James M. Jackson. Dr. John W. Jackson, who was not

related to Dr. James M. Jackson, was in practice at Coconut Grove but he played no part in the epidemic of 1899.

12. Under the supervision of the State Board of Health, and later the United States Marine Hospital Service, all Florida ports were routinely quarantined against Havana from April 1 until November 1 each year.

13. Sweeting's Report to Porter, January 20, 1900, *Report, SBH, March 15, 1900*, 32.

14. The steamer *Santa Lucia* belonged to the Florida East Coast Steamship Company, part of the Flagler interests. She was a wooden-hull, double decked, sternwheeler, 158 feet long, and 28.6 feet in the beam. Her draft was 3.4 feet; weight 193 tons gross and 170 net. The *Santa Lucia* was a typical river steamer. In late August 1899, decontamination and fumigation equipment was mounted on the lower deck along with the galley and a dining room for the crew. The upper deck was divided into a salon surrounded by 28 staterooms, which opened into it; Surgeon W. G. Stimpson stated that she could accommodate 36 passengers. The staterooms were likely 6 by 7 feet, and furnished with upper and lower bunks. Each stateroom included a large bowl and pitcher, which permitted sponge baths. Astern, on the lower deck, was a "common" toilet that was flushed with bay water. Above the stateroom deck was a "hurricane deck" supplied with stanchions over which an awning could be stretched to make a comfortable assembly space or an isolation ward. See "A New Fumigating Plant," *The Florida Times-Union & Citizen*, September 4, 1899, 2.

15. *Miami Metropolis*, September 8, 1899, 3.

16. *The Florida Times-Union & Citizen*, September 13, 1899, 2.

17. Alfred L. Kemp, "Coconut Grove — The Pioneer Paradise" (Unpublished manuscript, c. 1965, in author's possession), 10.

18. *Ibid.*

19. Maude Richards Black, interview by author, June 1, 1968; *The Florida Times-Union & Citizen*, October 18, 1899, 2.

20. J. M. Hawks, "Urges Precautionary Measures," *The Miami Metropolis*, Letter to the Editor, February 26, 1897, 8.

21. Horsey's Report to Porter, January 15, 1900, *Report, SBH, March 15, 1900*, 60; Jackson's Report to Porter, January 20, 1900, *Report, SBH, March 15, 1900*, 47.

22. *Ibid.*

23. William M. Straight, "The Yellow Jack," *JFMA* 58 (August 1971): 31-47.

24. John G. DuPuis, MD, *History of Early Medicine \* History*

of *Early Public Schools \* History of Early Agricultural Relations in Dade County* (Privately printed, 1957), 49-50.

25. Olive Chapman Lauther, *The Lonesome Road* (Miami: Center Printing Co., 1963), 80-83.

26. J. K. Dorn, "Recollections of Early Miami," *Tequesta*, (1949), 56.

27. Porter, *Report, SBH, March 15, 1900*, 111.

28. "The Fever Scare," *The Miami Metropolis*, September 29, 1899, 7.

29. Jackson's Report to Porter, January 20, 1900, *Report, SBH, March 15, 1900*, 61.

30. *The Miami Metropolis*, October 27, 1899, 7. See also DuPuis, *History of Early Medicine*, 57.

31. "The Doctors Disagree," *The Miami Metropolis*, October 20, 1899, 2.

32. Letters, sealed in envelopes, were individually pounded with a wooden mallet, the head of which was studded with several large nails. Having been thus perforated, the letter was placed on a rack, in a chest containing burning sulfur candles. The fumes of the candles were thus allowed to permeate the letter in hopes of killing the contagion. See "Florida Health Notes," *State Board of Health of Florida* 51 (September 1959): 145.

33. *The Miami Metropolis*, October 17, 1899, 7.

34. Lauther, *The Lonesome Road*, 82.

35. Kemp, "Coconut Grove — The Pioneer Paradise," 10.

36. *The Miami Metropolis*, November 3, 1899, 1.

37. "Camp M'Adam," *The Florida Times-Union and Citizen*, November 6, 1899, 2.

38. *Ibid.*, 4.

39. For a more detailed description of Camp McAdam see *The Annual Report of the Supervising Surgeon-General, 1899* (op. cit. endnote # 7), 740-42.

40. *The Miami Metropolis*, September 22, 1899, 6.

41. Saidee Kolb, interview by author, July 9, 1958.

42. W. W. Prout, "History of Miami's Past, Present Conditions and Future Importance Told in Detail," *The Miami Metropolis*, April 24, 1905, 1.

43. "The Emergency Hospital," *The Miami Metropolis*, November 3, 1899, 7.

44. *Ibid.*

45. J. Y. Porter, "Looking Backward Over Fifty Years of Health

Work in Florida," *JFMA* 12 (January 1926): 194.

46. "Sunday's Bad Fire. For the Second Time in Her History Miami Suffers From the Fire Fiend," *The Miami Metropolis*, November 17, 1899, 3.

47. H. I. Raymond, "Yellow Fever: How It Is Regarded At Camp Tampa Heights," *Medical News* 72 (1898): 683-84.

48. Dorn, "Recollections," 57.

49. *The Miami Metropolis*, November 24, 1899, 3.

50. "Proclamation," *The Miami Metropolis*, November 17, 1899, 7. The stone pier (also called the "stone dock") jutted into the bay just south of Flagler Street. It was built by Flagler for use by pleasure boats connected with the Royal Palm Hotel. Miami's commercial dock, at that time, was in the river near the foot of Miami Avenue. In 1903, the Fair Building was built on the stone dock, and later (in early 1925) when the bayfront was pumped in, preparatory to creating Bayfront Park, the stone dock was surrounded and covered.

51. Nixon Smiley, "Man Who Came to Florida in 1888 Reflects on the Past," *The Miami Herald*, May 5, 1968, 8C.

52. "Burdine's Buys Flagler and Miami Corner," *The Miami Herald*, July 31, 1936, 2A.

53. "The Quarantine is Off," *The Miami Metropolis*, January 19, 1900, 8.

54. "New Turnouts," *The Miami Metropolis*, January 19, 1900, 1.

55. "Yellow Fever Patients," *The Miami Metropolis*, November 10, 1899, 7. One case occurred at "North Miami" on November 1, 1899, and one at "South Miami" on November 7, 1899. North Miami was an unincorporated area near Miami's northern boundary; South Miami was a reference to that part of the community south of the city limits.

56. "Thoughts for the Future," *The Miami Metropolis*, December 22, 1899, 7.

57. Walter Reed, James Carroll, Aristides Agramonte, and Jesse W. Lazear, "The Etiology of Yellow Fever," *The Philadelphia Medical Journal*, October 27, 1900, 796.

58. *Ibid.*

59. *Ibid.*

60. *Ibid.*

61. *Ibid.*

62. Hiram Byrd, "Rational Quarantine," *Transactions of the Florida Medical Association, April 18-20, 1906*, (Jacksonville: H. & W. B. Drew Co.), 103-109.



Charles Torrey Simpson in South Florida. (HASF 80-158-12)