



John James Audubon shortly before his expeditions to Florida, 1831.

This mezzotint print derives from a miniature portrait made by F. Cruickshank in Britain in 1831, and published by Robert Havell in 1835. The print formerly belonged to Charles Deering.

Gift of J. Deering Danielson, HistoryMiami, 1984-236-1.

# John James Audubon in South Florida

James A. Kushlan

## Audubon's Historic Context

Passing the tip of Key Biscayne, raising the Cape Florida lighthouse at 5:30 P.M. on April 24, 1832, the United States Revenue Cutter *Marion* carried South Florida's first great naturalist to his South Florida landfall, achieved the next day, on Indian Key. John James Audubon came to South Florida to secure specimens to draw for *The Birds of North America*<sup>1</sup> and for natural history observations to include in his *Ornithological Biography*.<sup>2</sup>

To put Audubon's trip into its historical context, over 300 years had passed since the first official Western explorer had navigated this same ocean route, yet South Florida and its natural history remained little known. Juan Ponce de Leon, the first European to alight officially in South Florida, made landing at Key Biscayne on May 4, 1513, 319 years prior to Audubon's voyage past the lighthouse that now occupied its tip, Cape Florida.<sup>3</sup> Ponce then continued around the Keys, which he called Los Martires, Audubon's immediate destination. No European naturalist is known to have visited South Florida during the following 250 years of Spanish dominion.

Nor was much indigenous knowledge captured. Through the Spanish period, the native peoples of South Florida, allied with but resisting total Spanish enculturation, continued to rely on a hunting-gathering economy, clearly requiring intimate knowledge of south Florida's nature.<sup>4</sup> But none of this millennia-old knowledge passed onto western naturalists, and it was lost entirely when the small remnant of Florida's original peoples departed with the Spanish in 1763. The Creek-derived Seminoles, who were immigrating southward and into South Florida, were agriculturists and had to learn about the local tropical environment at the

same time as other settlers. During these centuries, South Florida had been visited seasonally by Bahamians and Cubans for trading with Indians, fishing, tree cutting, spice collecting, turtling, and wrecking. These people no doubt learned much about South Florida's natural history, but their interest was not in recording it for future historians.

Naturalist-artist Mark Catesby skipped past Spanish South Florida in favor of the Bahamas during his 1712-26 stays in North America. However, his ground-breaking work served to introduce the birds of southern North America, including the Floridas, to Europe's naturalists.<sup>5</sup> Scientific attention to South Florida increased during the two decade interregnum of British rule. John William Gerhard de Brahm and Bernard Romans explored and surveyed in South Florida, 1765-71 and 1766-72, respectively, producing competing (and sometimes intentionally contradictory) reports on geography and some natural history, focusing on information of value to land grantees, potential settlers or aspirational commercial enterprises.<sup>6</sup> De Brahm described vegetation and soils and made lists of native plants and animals, some of which were from South Florida. William Bartram made it as far as northern Florida in 1774, but not beyond.<sup>7</sup> Bartram, like Catesby before, wrote of and illustrated the natural history and bird life he found during his travels in a widely read and exceptionally well-appreciated book published in 1791. His writing inspired the Romanticists, while his artwork and bird lists did the same for the next generation of naturalists. Artists and collectors did follow Bartram southward as far as North Florida in that documenting the species of plants and animals to be found in North America was a scientific task given high importance at the time. Bartram became a central figure in the developing scientific community of Philadelphia; in 1818, Philadelphia bird artist Titian Ramsay Peale ventured into North Florida aspiring to follow Bartram's route.<sup>8</sup> John Abbott, who was drawing the birds of the south, appears not to have ventured into Florida during his lengthy (1775-1840) residence in Georgia.<sup>9</sup> Alexander Wilson, who, between 1808 and 1814, had published the first definitive work on American birds, had made it as far as St. Augustine.<sup>10</sup> Wilson's successors George Ord and Charles Lucien Bonaparte depended on specimens and

drawings of others, including Peale's Florida collections.<sup>11</sup> By 1821, when Spain ceded Florida to the United States, the wildlife treasures of North Florida were well known internationally and new discoveries were anticipated by natural history devotees in both Europe and America. But Florida south of St. Augustine remained, in terms of its biology, relatively unknown to science.

Audubon's trip to Florida focused on its waterbirds, the subject of his next volume. He had started his expedition in North Florida, but there he had found that reality contrasted poorly with what he had expected from Bartram's writing.<sup>12</sup> North Florida had failed to live up to Audubon's expectations in part because sixty years of wildlife depredations had passed since Bartram's visit. He was disappointed in the countryside, the lack of birds and some of the people. He also discovered that a trip from St. Augustine in North Florida to South Florida was not feasible, requiring walking the beach for hundreds of miles and intermittently swimming inlets; and so he had returned to the port of Charleston to await passage.

Charleston was in fact the most direct way to reach South Florida, and the home of the Revenue ships. It was also home to an active German-derived natural history contingent, including: Reverend John Bachman, to become one of Audubon's most important writing collaborators and provider of his daughter-in-laws; E. Edward Holbrook, a founder of American study of reptiles and fishes; and Edward Frederick Leitner, a botanist, all supportive of Audubon's endeavors.<sup>13</sup> Audubon was pleased with his reception in Charleston, where he made lifelong friends. It was in Charleston that the Collector of the Port gave the Washington-sanctioned orders for a Treasury Department ship to carry Audubon with it on its cruise to South Florida.<sup>14</sup>

Such deference was in large part due to the fact that by the time of his South Florida journey, Audubon had already made his name in both art and natural history; he was internationally acclaimed, Baron Georges Cuvier having declared his work to be "the greatest monuments ever erected by art to nature."<sup>15</sup> The first and parts of the second illustrated volumes of *The Birds of America* had been published in England to great acclaim there and, belatedly, back home in America. His scientific reputation was increasing<sup>16</sup> despite hostilities of the Philadelphia-based guardians

of Alexander Wilson's legacy.<sup>17</sup> But by the time he was preparing to undertake his South Florida expedition, he counted as his subscribers the intellectual and power elite of Europe and America. His renown was such that officers of the federal government were prepared to help. He had impressively secured permissions from the Secretaries of the Navy and the Treasury as well as the head of the Bureau of Topographic Engineers, who together controlled the southern coastline for the federal government.<sup>18</sup> Audubon had already been the guest, albeit an unhappy one, of a revenue cutter, *Spark*, for his explorations of the St. Johns River, on the direct order of the Treasury Secretary.<sup>19</sup> Now, the revenue cutter *Marion* was ordered to carry and assist him, between, as all official documents took pains to emphasize, the ship's official responsibilities to Key West.<sup>20</sup>

Key West had been occupied by the Navy on behalf of the United States in 1822 and so began attracting less transient settlers than the previous Bahamian and Cuban transient users. It did not take long for Key West to overtake St. Augustine and Pensacola as the most populous and prosperous town in the Florida territory. Some of the newly resident watermen were self-taught naturalists, learning the bays, channels, keys and islets, as well as birds, fish and shells, because such knowledge was important to their livelihood. This local knowledge proved invaluable to Audubon. Key West had even begun to attract more formally educated, adventurous and intellectually curious settlers, some of whom were in contact with the scientific *cognesanti* of the day, notably Dr. Benjamin B. Strobel.<sup>21</sup> Newspaper accounts and even bird specimens from the Keys had begun to drift northward. Ten years after its Americanization, Key West was ready to receive John James Audubon.

But, in 1832, Audubon was not on a Carnival cruise to Key West for Mallory Square amusement. He was entering a wilderness accessible only from Charleston, Havana or Nassau. He traveled under the protection of the federal government to a region under threat by Seminoles resisting forced relocation, authorized by President Jackson and the United States Congress only two years earlier. Within a few years after Audubon's visit, the Seminoles would clear the entire South Florida mainland and upper

keys of settlers. The places and people Audubon had come to know were not spared, nor were naturalists. Only eight years after Audubon's visit, war chief Chekika's band attacked Indian Key, resulting in the civilian abandonment of the town.<sup>22</sup> Among the dead from that 1840 attack was a famous plant collector and agriculturalist, Dr. Henry Perrine.<sup>23</sup> The Cape Florida lighthouse on Key Biscayne was attacked and partially destroyed only four years after Audubon cruised past it.<sup>24</sup> Six years after Audubon's visit, in 1838, his botanist colleague, Leitner, was killed by Indians at Jupiter Inlet.<sup>25</sup> Audubon, under only intermittent government protection, was heading deep into a wilderness known only to locals, among potentially hostile Indians, smugglers, wreckers and left-over pirates, all in his goal to pursue waterbirds to observe, shoot and draw in the Florida Keys.

### **Audubon in the Florida Keys**

Heading for the Keys, on board with Audubon were his collaborators, employed by him for the trip. He had brought a taxidermist, Henry Ward, from England, a landscape painter, George Lehman, from Philadelphia, as well as a well-trained retriever dog from Charleston. The *Marion's* leadership and crew soon became important Audubon collaborators. Later in the Keys, Audubon through his normal persuasiveness, acquired local partners as well. Audubon's work was a highly collaborative endeavor, no less in the field than in the studio. Leaving Cape Florida in their wake, Audubon, his team, and the *Marion* arrived on April 25, 1838, at Indian Key.

Indian Key was a settlement in the middle Keys that had seen considerable development and prosperity since its founding eight years earlier. It was becoming an economic rival to the official port of entry, Key West, and had its own customs office, making it an obligatory port of call for a revenue cutter.<sup>26</sup> The *Marion* remained at Indian Key for a week, giving Audubon time to explore a place that more than overcame his bad experiences in North Florida. Audubon, typically, wasted not a moment. He wrote of being rowed ashore immediately and of being assigned a boat and guide, the Assistant Customs Collector Mr. Thruston, and a pilot,

a Mr. Egan. The expeditious assignments of government boat and personnel no doubt owed to the same orders from the Collector of the Port of Charleston that had placed the revenue cutter at Audubon's disposal. Mr. Egan was crucial to Audubon's success, his local knowledge contributed critically to Audubon's South Florida findings.<sup>27</sup> It was Mr. Egan who took him to all the places Audubon wanted and many he did not request but which Egan decided Audubon needed to see. Mr. Egan was repeatedly praised by Audubon for his knowledge, skills, and willingness. Egan was drawn from the community of watermen who knew the land and waters because they were simultaneously wreckers, fishermen, loggers, conch divers, manatee-hunters, turtles, pioneer settlers and, apparently, guides. Egan was a man who not only knew the natural history of the area, but also was more than willing to show it to his artist-hunter client. Audubon's first landfall at Indian Key produced specimens used for at least five figures of *The Birds of America*: Double-crested Cormorant, Reddish Egret, Roseate Tern, Gray Kingbird, and White-crowned Pigeon.<sup>28</sup>

Surprisingly, Audubon reported no personal engagement with the founding father of Indian Key, Jacob Houseman, whom it would seem had absented himself from the Key while the revenue cutter was in port.<sup>29</sup> Given that Houseman's practices were not above question, perhaps avoiding revenue cutters at his home port was for him the better part of valor. A reading of the log of the *Marion* reveals that Houseman's ship was boarded twice during the *Marion*'s patrol and both times he was identified as a wrecker from Key West,<sup>30</sup> not as the principal developer and force behind the Indian Key settlement, roles which the Treasury Department's officers certainly knew. The same year as Audubon's arrival, Houseman had gotten the customs office established on the Key, thereby providing Mr. Thruston's position, the small boat Audubon used, and the reason for the Cutter to come to call. The next year Houseman would have a post office; in 1836, the territorial legislature excised a new Dade County from Key West's Monroe County with Indian Key as its county seat.<sup>31</sup> The *Marion*'s scant accounts of its encounters with Houseman suggests they were showing him some deference. Houseman no doubt knew of Audubon's visit and chose not to be around on shore at the time.

During his stop at Indian Key, Audubon explored the surrounding keys, traveling as far west as Sandy Key, twenty miles away. Audubon's story of the Sandy Key trip does not include his own participation in a stop at Cape Sable, the sweeping beaches of which he surely would have described in some detail. Perhaps the crew went alone to fetch fresh water, leaving Audubon with his birds on Sandy Key. Audubon's two visits to Sandy Key were among the more useful and adventuresome of his South Florida trip. Sandy Key is, as Audubon described, the westernmost of the northern Florida Bay keys. His description of the extensive nearby shallows and beaching of boats by the outgoing tide remain true. Although the island itself is now much reduced, and in fact was partitioned by later storms, it remains a colony site for ibis and herons nesting in a nearly impenetrable thicket of cactus, Spanish bayonet, and other dense and thorny shrubs, as Audubon described.<sup>32</sup> The sudden appearance of squalls remains a feature of Florida Bay. He mentioned in his Sandy Key account, and in individual species accounts, the many birds he found there.

The *Marion*, with Audubon aboard, departed Indian Key to Key West by way of overnight anchorages at Key Vaca and Bahia Honda. This leisurely pace gave Audubon and Egan, who continued with him, time to explore these areas before reaching Key West.

Key West, the *Marion's* official destination, had a population of about 500 people, mostly dependent on the wrecking economy.<sup>33</sup> As was his style, once on shore Audubon immediately found his intended contact, Dr. Strobel.<sup>34</sup> Their seventeen or so days together were serendipitously golden opportunities for both men. As the local newspaper's owner and writer, Strobel reported positively on Audubon's visit in the *Key West Gazette* and also back in Charleston in the *Charleston Mercury*.<sup>35</sup> He gave testimony to Audubon's fine personality (one not always appreciated by others) and his devotion to his cause as exemplified by his strenuous daily schedule. Strobel was the source of some of Audubon's more engaging stories, including his wreckers story and the "Wrecker's Song," as well as several of the other stories Audubon offered (vignettes that were later criticized as detracting from the scientific content of *Ornithological Biography*). Audubon provided due



credit to him for the contributions. He could have not had a better press agent.

According to Strobel, Audubon rose about 3 a.m. to boat to distant islands or tromp through hammocks, salt pans and mangrove swamps to find birds. Early afternoon he went home to stuff birds, write and draw. Strobel provided direction for Audubon's efforts; the *Marion's* crew provided willing assistance. Key West itself, and trips to nearby islands, produced a number of observations and some drawings.

In the middle of his Key West stay, he was given the opportunity to visit the Dry Tortugas. The trip was commanded by the Collector of the Port in Key West, officially as an emergency examination of the Tortugas lighthouse. Perhaps it was something of a ruse to bring Audubon there. The Dry Tortugas was the location then, as now, of colonies of seabirds that nest nowhere else in the continental U.S.A. A visit was crucial to Audubon's goal of near universal coverage of American bird species, and especially crucial to his planned waterbird volumes. Encountering terns, boobies, and frigatebirds there, he got his wish for more species. It was in the Tortugas that Audubon was invited on board a wrecker's boat, where he got to know the crew and to pose questions to them in his quest for additional information on natural history. As Audubon provides quite a bit of information on the seasonality of these birds, which he himself could not have observed, much of what the wreckers shared, it would appear, made it into his accounts.

On May 16, the *Marion* returned to Key West where it stayed another six days before starting northward. Audubon took advantage of the time to continue his explorations in and around the area. Audubon much appreciated his time in Key West. He named a quail-dove after the town; and for the Great White Heron plate, Audubon had Lehman sketch in the town of Key West as background, in tribute to the town's hospitality.

### **Audubon the Naturalist in South Florida**

Audubon's observations on the birds and natural history of South Florida are to be found in species accounts and stories

published in the *Ornithological Biography*.<sup>36</sup> What species were painted from specimens from his Florida Keys time is known, mostly.<sup>37</sup> Backgrounds he commissioned from Lehman sometimes also helped convey more information about a bird's natural history or milieu. They also were used to celebrate a place, including Key West and Indian Key. But sometimes the background was more for aesthetics, and offered incorrect impressions of a bird's natural history (such as using St. Augustine as a background for the bird he identified as a greenshank collected on Sandy Key). All in all, for his short visit, Audubon's original natural history observations and images were superior by any standard, but they indeed were extraordinary considering the logistically difficult circumstances under which they were made.<sup>38</sup> A large portion of the observations Audubon made and reported on the lives of the birds of the South Florida were historic contributions to knowledge.

Audubon's first reported South Florida bird observation was of a flock of seabirds that he saw while passing off Cape Florida, but he was unable to procure specimens from his fast-moving ship. He called this bird the Dusky Petrel; but the species was later renamed, becoming the Audubon's Shearwater in his honor. These shearwaters still appear frequently commonly at the edge of the Gulf Stream off South Florida and nest in the nearby Bahamas.<sup>39</sup>

Double-crested Cormorants (plate 252) were familiar to Audubon. In the Keys, he was given the opportunity to shoot many, for which he nearly apologized in the *Ornithological Biography*;<sup>40</sup> he observed their behavior closely. By the time he left the Keys, he knew them intimately and reported quite accurately. He described them as an underwater swimming, fish-eating, inshore-feeding, tree-nesting species, the latter observation being different than the habits of the then better known cormorant species, which nest on the ground. He was intensely interested in the birds because he thought they represented a species new to science. Comparing his specimens to those included in his friend, supporter and taxonomic mentor Charles Lucian Bonaparte's supplemental work to Wilson's *American Ornithology*, he decided that the birds he found in the Keys represented a different species, which he called



Magnificent Frigatebird. Plate 271.

Audubon was much taken with was the Magnificent Frigatebird, which he illustrated upon returning to Key West from the Tortugas.

HistoryMiami, 1987-078-553.

the Florida Cormorant. Although this conclusion is not accepted today, the population in South Florida is considered to be a subspecies as named by Audubon. An apparent new species in hand, he drew his chosen specimen at Indian Key on his forty-seventh birthday. Forty-seven was not young in those days, especially for a far-adventuring woodsman.

The Brown Pelican, apparently one of Audubon's favorite birds, was the subject of a long account in *Ornithological Biography*, in which he described their daily cycle, flight, plunging feeding behavior, distinguishing it from the behavior of the White Pelican, functioning of the pouch, interactions with dolphins and Laughing Gulls, nesting, and development of young. He published two plates of the Brown Pelican. In the first-published, Audubon placed his adult Brown Pelican (251) on the branch of a red mangrove tree. This painting is an excellent study of feathering details. And choice of the salt-water-growing red mangrove was inspired. Red mangroves indeed are its usual resting and nesting tree in South Florida, and Audubon offers an accurate account of red and black mangroves, which at that time would have been little known to temperate zone readers. He offered a hypothesis as to how mangroves created islands, an interpretation that held for many decades thereafter. Later, Audubon provided a second plate of a juvenile, drawn in Louisiana, that was more impressionistic, but which showed clearly the bird's head and bill. Audubon's power of observation clarified misunderstandings of how Brown Pelicans used their bill and pouch in foraging. He also told of Laughing Gulls landing on the head of foraging pelicans to steal their food, an account that was widely criticized but that was true.

Another waterbird Audubon was much taken with was the Magnificent Frigatebird (271), which he illustrated upon returning to Key West from the Tortugas. He shot enough birds to be able to interpolate multiyear juvenile plumage changes. He described its light flight (it has the lightest wing loading of any bird), piracy on other birds, diurnal roosting cycle, nest construction, nest structure and nesting behavior. His image is a back view of a bird in diving flight, similar to poses he used with other seabirds such as the Gull-billed Tern, Sooty Tern, Roseate Tern, and Common Tern. While not inaccurate, it is a bit puzzling that he

chose not to provide his usual environmental context, nor any suggestion of the bird's immense 7 1/2 foot wingspan, nor the male's amazing gular pouch. Providing environmental context, which is totally lacking in this plate, is a distinctive characteristic of much of Audubon's work as it allowed him to tell a story in a drawing. For an artist who cleverly fit big, long-legged and long-necked birds into his page size constraints, it seems odd for him not to take on the challenge of the longest-winged bird he would paint. But what seems even more inexplicable is why he chose not to pose the bird perched and viewed from the front, which would have provided an opportunity to illustrate the male's sensational bright red inflatable throat patch pouch. In this pose he could also have shown the feet attached to the bird.

Audubon knew of the frigatebird's pouch, as he mentioned it in his White Ibis account, and its featherless skin appeared at the side of the throat of the illustrated bird, although as a pale flesh color rather than red. Audubon's correct descriptions of frigatebird nesting, nests, chicks, and young suggest that he visited a nesting colony. Had he gone to a colony at any time during the nearly year-long nesting cycle, however, he would have seen males displaying their throat pouch. Such a phenomenon would certainly have demanded illustration. Did he really visit a colony or did he take the word of others as to what happened there?

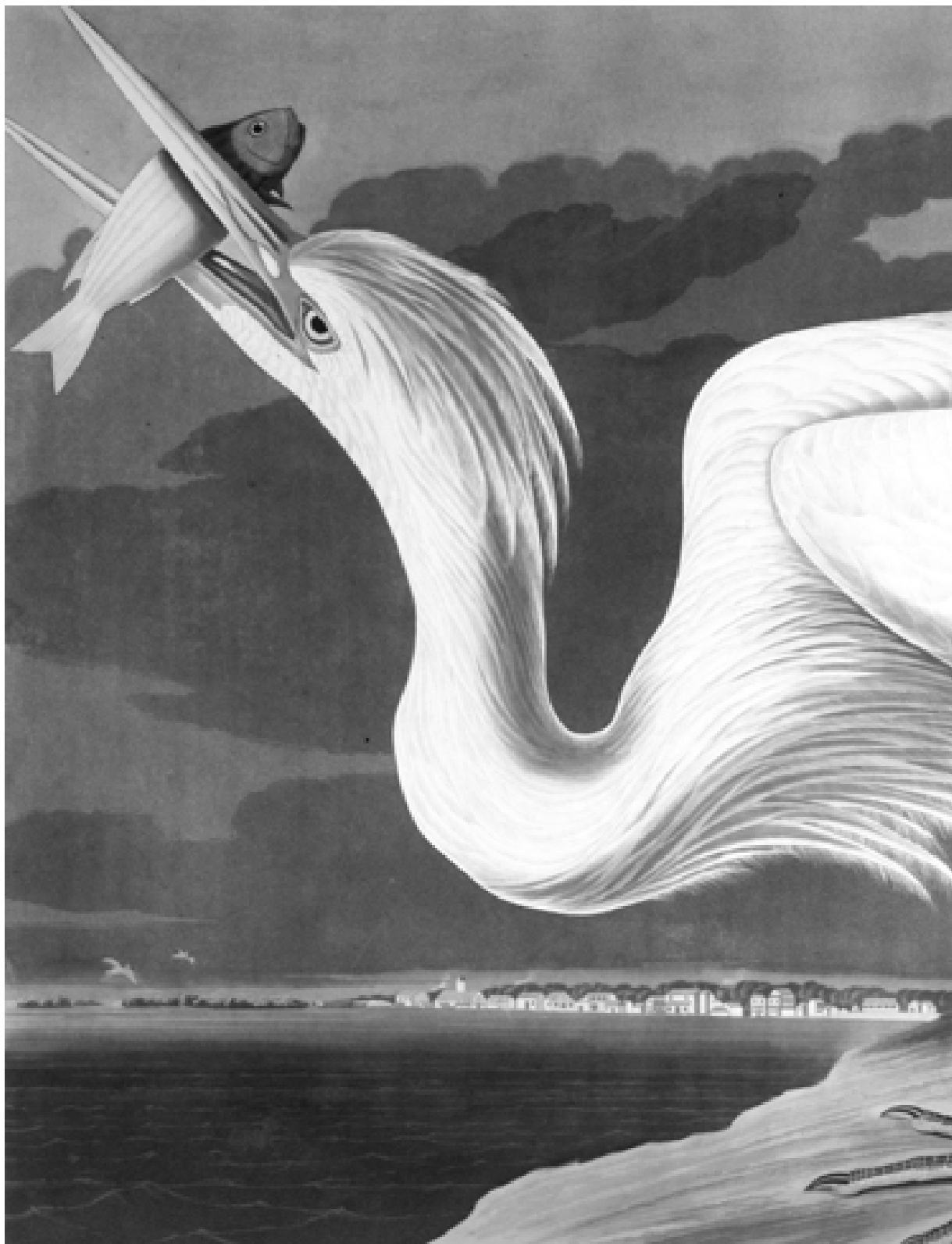
Similarly puzzling is what he did illustrate: detached feet. In the print, feet are inserted in the sky above the bird portrait; in the original painting he drew them in below. For other birds shown in a similar diving posture, Audubon was careful to show at least one leg and foot, but not for the frigatebird. Audubon explained that he inserted these foot drawings to illustrate the pale feet of juveniles as opposed to the dark feet of adults. But he chose not to show the dark feet of his adult flying bird, so there is no way to compare them. Actually, I find his explanation unconvincing, as there seems nothing special in the color of these feet worthy of their separate illustration. There is, however, an alternative explanation. One of the frigatebirds was shot out of the sky as it scratched its head in flight. This specimen solved a problem that had long vexed Audubon, the function of the comb-like (pectinate) toe nail of some waterbirds. The felled frigatebird's nail was full of

feather lice, proving to Audubon that the nail was for grooming, which is totally correct and a keen observation. I believe that he initially drew the feet in the field to show the toenail, a discovery he clearly cared about as he expounded upon pectinate toenails in several passages in his book. But that is not the explanation he gave in his *Ornithological Biography*. Perhaps he forgot, or no longer thought the toe nail interesting, or was avoiding controversy, or maybe was too rushed to both monitor the engraving and write the accompanying account.

Together, these aspects make the frigatebird is one of the more puzzling images in Audubon's South Florida collection, seemingly an example of opportunities not taken. In recent decades, frigatebirds have nested in south Florida at Marquesas Keys and Dry Tortugas, but never in large numbers. Their largest nearby colony today is in the Bahamas.<sup>41</sup> Nearly all frigatebirds seen in south Florida today nest elsewhere—a frigatebird recently observed at Marco Island in southwest Florida had been tagged 1,400 miles away in Barbuda.<sup>42</sup> What their nesting status in South Florida was in Audubon's time, based on his account and choices made in his drawings, is unclear.

The first birds Audubon was taken to collect on the Dry Tortugas were Brown Boobies (207). He found them nesting on two islands and described the bird, its nesting, food, flight and feeding. Unfortunately, his detailed description of their nesting has thrown his entire breeding record into doubt because he described them as nesting in shrubs, which, as far as anyone else has known, is not true as they nest on the ground.<sup>43</sup> In the Caribbean, only Red-footed Boobies nest in bushes. Did Audubon really make observations of Brown Boobies nesting? Because of this discrepancy, his record of Brown Boobies nesting in the United States has not been accepted.<sup>44</sup> The bird he portrayed was on a floating tree limb, the situation in which he first attempted to collect one, unsuccessfully, despite heroic effort. It accurately has Indian Key as a background. The species does not nest in South Florida but does continue to occur, particularly juveniles, near and off shore.<sup>45</sup>

A species drawn from a South Florida specimen but not seen by Audubon on his trip was the White-tailed Tropicbird (262). It was secured from the Tortugas by Lt. Day who sent it to him.



Great White Heron. Plate 281.

The Great White Heron was the pride and joy of Audubon's trip. He was elated when he was shown them on his first stop at Indian Key. Convinced that this was



an undescribed species, he drew a specimen on his second stop at Indian Key. He had Lehman draw a background of Key West.

HistoryMiami, 1988-241-16



Audubon had been studying herons for some time, during his trips down the Mississippi, in the Carolinas, and in North Florida. These birds actually can be quite confusing, especially the white ones, and no doubt were in Audubon's time. One North American species is white only as a juvenile and other species are dimorphic, having both white and dark birds.<sup>46</sup> Audubon may have been the first to actually sort out all of North America's herons, which he enumerates within his Reddish Egret account.

Painting the Reddish Egret (256) was one of Audubon's goals for the Florida Keys trip. The species had been included in Bonaparte's work as drawn by Titian Peale, and Audubon had studied that drawing of a white egret as Peale's Egret. Egan, who knew his herons well, described two purported sorts that Audubon did not recognize. Egan took Audubon to a colony specifically to see one of these for himself. Audubon knew the bird immediately from Peale's drawing, finding not only white birds but dark-colored purple-grayish ones as well. He found males and females and found that both colors of birds were breeding, including with each other. This should have been proof not only that they were the same species, which Audubon recognized, but that they were all fully adult birds. However, Egan, whose knowledge Audubon totally respected, told him that the birds changed color with age, starting white and turning dark, and that they started nesting as juveniles before they turned dark. Audubon, exposed to all the necessary information to the contrary, nonetheless, accepted Egan's theory that the white birds were young. This was wrong as the dark and white birds are color morphs of the same species and retain their color from hatching.<sup>47</sup> He described the species' Florida range well and its choice of shallow, open-water feeding habitat in Florida Bay. His account of their foraging described them standing and in pursuit of prey, but this does not capture the essence of their characteristic frantic feeding behavior of running and hopping about, certainly among the most remarkable of the birds' attributes, indeed remarkable among all herons.<sup>48</sup> Had he observed them feeding closely he most surely would have, with great elation, described their sensational feeding behavior more fully.

He chose a South Florida specimen of the Tricolored Heron (217) to illustrate this strikingly patterned species. Audubon's ex-

tensive descriptions of the feeding behavior and nesting biology are accurate. And he characterized the species' North American range well from his breadth of observations throughout eastern North America. In the Keys, he found two nesting sites, one accidentally while hunting spiny lobster. He was able to observe the nest, eggs, and young, some of which he took captive. The image he drew was meant to show the complex feather coloration, although the aigrette plumes seem a bit overdone. The long bill and graceful attitude are certainly representative of the species.

The Great White Heron (281) was the pride and joy of Audubon's trip. He was surprised when Egan told him about the bird and elated when he was shown them on his first stop at Indian Key. This huge and distinctive heron indeed had never been reported before, and this was an historic moment. Convinced that this was an undescribed species, he spent much time studying it, collecting live young and adults near Key West, and finally drawing a specimen on his second stop at Indian Key. He had Lehman draw a background of Key West. Audubon admittedly had trouble drawing herons, with their long necks and legs, and it was no doubt a special challenge to fit a sensible-looking five-foot tall heron within the folio page. The bird's posture and proportions are correct; the act of handling the prey before swallowing is very well rendered. Audubon fit the life-sized image in a realistic pose in his watercolor.<sup>49</sup> However for some reason in the print, the bill tip ended up outside the frame and into the white margin, inventive but a bit odd. As Audubon insisted that his birds be life-sized, it would seem that he slightly misjudged the plate size limits in setting up his original life-sized drawing. He described correctly the nests and breeding but also a now impossible scene of a hundred feeding in a single flock. His second-hand account of this heron eating gumbo limbo fruit has never been confirmed and seems unlikely for this carnivorous species. His associates kept captives for a year or more. During this time they documented the bird's aggressiveness, such as their attacking captive Great Blue Herons and eating his Tricolored Herons. For many decades the Great White Heron, following Audubon, was considered a separate species and then, in the past 40 years, it has been considered a dimorphic subspecies of the Great Blue Heron. There are solid

arguments as to why this might not be the case, and, if eventually genetic analysis demonstrates, Audubon may well be proved correct that this is a species distinct from the other herons.<sup>50</sup> Many of the keys off Key West that Audubon probably visited are now part of the Great White Heron National Wildlife Refuge.

The White Ibis specimens Audubon drew for his plate were not from the Keys, but he stated that he purposely took ample time on Sandy Key to make additional observations for the *Ornithological Biography*. He correctly described, primarily for the first time, the compactness of White Ibis nests, their eggs, young, feeding of young at the nest, their probing style of foraging, their calls, flying and flight lines, soaring, and food habits, correctly establishing their preferences for fiddler crabs and crayfish. He proudly described their breeding colors and eye color, which he complained other observers had ignored. He shot and examined many specimens. So his being in error on a couple of critical observations is unexpected. Audubon insisted that his extensive collections revealed that males and females had a differing number of black-tipped primary feathers, which is not the case.<sup>51</sup> And he described the males as having a red gular pouch (a ping-pong-ball sized expanded sac of skin on the throat), which actually is possessed by the female, a mistake that entered the literature and was not corrected for 140 years.<sup>52</sup> His account also included observations from the Gulf Coast of clever Ibises dropping mud balls in crayfish holes to get them to emerge and be eaten. The known feeding behavior of the White Ibis<sup>53</sup> hardly accommodates such a story, but even more seemingly outlandish of Audubon's reports have eventually proved true.

Audubon engaged with two other sensational waterbirds on his Keys trip, the Roseate Spoonbill and American Flamingo. It is not clear where in Florida the drawn spoonbill specimen was from, but Audubon made quite an effort to secure a specimen in South Florida. In the species account, he complained about how hard they were to kill, or even to get close to. He made a keen observation that spoonbills tend to feed alongside herons, which serve as the spoonbills' sentries. He reported accurately their unique head swinging feeding behavior and their nesting.<sup>54</sup> He also secured a number of young, allowing him to describe growth



Brown Pelican. Plate 251.

Audubon placed his adult Brown Pelican on the branch of a red mangrove tree. This painting is an excellent study of feathering details. Red mangroves indeed are its usual resting and nesting tree in South Florida.

HistoryMiami, 1988-241-5.

and plumage change. He correctly deciphered their range as including Texas, but also described their range as farther north in Florida than is the case today. For his plate, he chose an adult male that he said had just completed its molt. The image shows the bird's complex coloration, the green of the featherless head, variations of pink on the body and wings, including the magenta feather tuft on the lower throat, and the yellowish tail and sides, all in details not previously captured.

Similarly, he was adamant in achieving his goal of collecting flamingos. He pursued them whenever he saw them, starting at Indian Key. Although Audubon's Keys colleagues had previously shot these birds successfully, their wariness won out, and he left south Florida empty-handed. The specimen he drew was provided to him later in England. It is one of the more famous prints, and he successfully fit this exceptionally elongated bird within the prescribed frame. In the wild, he described seeing the bird flying and roosting. Given his own limited experiences, he sought information from others, which he published in *Ornithological Biography*. It seems he may not himself have seen the birds feed. A Flamingo feeds by turning its head and bill upside down and pushing food-bearing water through the sieve-like edges of its bill. Audubon did not place his specimen in this position, and thereby missed the chance to demonstrate this totally unique feeding posture. In fact such a pose might have even better fit the plate's frame. Why not? Was it for artistic reasons? The main image is indeed attractive, with the lines of the bird's neck and bill following the contour of the substrate on which it is standing. But this substrate was added in engraving and was not in the original painting, so it follows the bird's lines not vice versa.<sup>55</sup> Audubon was well aware of the oddity of the flamingo's bill, which he detailed in careful sketches that he had inserted above his main image on the plate. The best explanation is that when he made his painting he did not know about their feeding posture. During engraving, eight other images of tiny flamingos were added to the background in the picture. This no doubt was intended in part to suggest their flocking tendencies. The drawings of these small birds are poor compared to the main image, but one of them may be of a bird feeding with its bill upside down. This may have been

a late attempt to suggest this behavior, perhaps by the engraver.

The historic status of the American Flamingo in Florida has been a matter of long term contention since Audubon's visit. There can be no doubt Audubon saw many of them in the Keys. Other than a single egg, there is no evidence of Flamingos nesting in Florida. Flamingos used to nest nearby in the Bahamas on Andros and still do on Inagua and in Cuba and Mexico.<sup>56</sup> Any of these could have been the source of seasonally migratory flamingos in Audubon's time. Understanding their recent status in South Florida has been clouded by the existence of an unpinioned flock at Hialeah Park race track near Miami, which can be blamed, rightly or wrongly, for any birds seen in the wild. The mystery of the origin of South Florida's contemporary Flamingos was solved in 2002 when a bird was seen in Florida Bay that had been banded in the Yucatan, Mexico.<sup>57</sup> Wild flamingos continue to occur in South Florida, although not nesting, and their numbers are increasing.<sup>58</sup>

Since Audubon's trip was in spring, wintering and migrating shorebirds were still around, including thousands of Marbled Godwits (238, the left-most image) and Long-billed Curlews. He mentioned that pairs of Wilson's Plovers were to be found on Keys having sandy or rocky shores, which is still the case in the Bahamas although less so in South Florida.<sup>59</sup> An unlikely observation was that of Greenshanks (269), a European species. Yet on Sandy Key Audubon affirms that his party shot three of these birds (which at the time he thought were Snipe) and made specimens of them. They were identified as species initially by his accompanying Englishman, Ward, who certainly could have been excused for confusing an unfamiliar species with a similar-looking species he knew well. Audubon later compared his specimens to others. His final drawing was not made until 1835, when he was in England, near where the species does occur in Scotland, so he had much time to consider its inclusion in the work. He stuck by his decision that his birds were Greenshanks, a species never to be documented as occurring in the southeastern North America thereafter. Might he have been too willing to accept Ward's identification and then could not back down? Authorities on North American birds consider Audubon's records to be "questionable."<sup>60</sup>

Audubon seemed to like Laughing Gulls, and wrote a long account of the species. He found the Laughing Gull to be a common water bird in South Florida, as it is today, and he made many observations of its behavior in Florida, such as its stealing food from Brown Pelicans. He also saw it elsewhere and chose a specimen from New Jersey to illustrate the species.

Audubon found the Dry Tortugas to be a haven for nesting terns, and it remains so.<sup>61</sup> It is the only place in the continental USA where Sooty Terns and Brown Noddies nest. The Sooty Tern (235) was, and still is, the more abundant. He described the tern at the nest, its loud calling (another name for the tern is Wide-awake), its method of feeding by dipping in the water rather than by the more normal tern method of plunging, and its avoidance of floating. He reported that eggers from Havana had already collected eight tons of eggs in the season of his visit, a statement that would have required over 360,000 eggs. Likely this was information from the wreckers.

Audubon was even more expansive in his account of Brown Noddies (275), which he unexpectedly found nesting on bushes in the Tortugas. Being a new observation, he documented this thoroughly, describing the nest, nest building, and nest attendance as well as feeding, and flight characteristics. By the time he wrote the account, he also chose to attack Thomas Nuttall for stating that in the Bahamas Noddies nest on rock ledges, insisting that his own account of their nesting on bushes was the correct observation. Audubon's attack was misplaced; in fact, Noddies do as both men observed.<sup>62</sup>

Also on the Tortugas, he found Royal Terns, which he called Cayenne Tern (273), nesting and used a specimen from there for his drawing. He had studied them previously in North Florida, finding them in flocks of hundreds. He provided accounts of the flight, feeding, and juvenile plumage.

Audubon found Roseate Terns (240) nesting at multiple sites in the Keys. This was the first time he had seen this species, and he searched widely for its colonies. His observations suggest there existed a large nesting population on the Keys, which certainly is not the case more recently.<sup>63</sup> He described their flight, feeding and nesting. Its migration timing was told to him by a wrecker.

When Audubon encountered a flock of Sandwich Terns (279), he was elated, recognizing that his sighting of this European species was the first North American record. Finding by dissection of his specimens that they were ready to nest, he sought out their colony site, proving they were nesting in South Florida then. By the late 1800s, the species was no longer breeding in Florida, returning only in the 1980s, but not to the southern part of the state.<sup>64</sup> It still breeds nearby in the Bahamas.<sup>65</sup> This is another example of a species that Audubon documented as being common and nesting in South Florida but neither is the case today.

Audubon clearly was fond of pigeons and doves; several times he anthropomorphized on the endearments shown within pairs and implied this character in his drawings. He enumerated the species and relative abundance of American doves in his Ground Dove account, a species he saw on the Keys, including on Sandy Key, where he found a pair nesting on top of a cactus. He provided many details about the species derived from his numerous encounters in various places.

In the account of the Zenaida Dove (162), Audubon provided a romantic exposition of their mutual affection, relaying a far-fetched story he had heard about how their call inspired a pirate toward becoming an honest man. He found the Zenaida Dove to be a common seasonal resident of the Keys, nesting in the interior of islands. His unambiguous observations of nesting are somewhat surprising as this West Indian species is now only an extremely rare non-nesting visitor to the Keys.<sup>66</sup> He definitely distinguished it from the rather similar Mourning Dove. He studied its nesting and raised two chicks, so there is no reason to doubt his report of its nesting historically in the Keys. The dove occurs and nests in the Bahamas<sup>67</sup> and rather abundantly through the Caribbean. This is another of the species that has experienced a significant change in its historical status in South Florida since Audubon's reports. Lehman placed the dove in a pond apple tree, even though it is very much a ground bird and pond apples in the lower Keys appear only in solution holes holding fresh water.

Audubon made many notes on the White-crowned Pigeon (252). He correctly described the seasonal migrations of this spe-





---

Mangrove Cuckoo. Plate 169.

The Mangrove Cuckoo was an unexpected find for Audubon. In fact, Audubon admitted to overlooking this species, assuming they were, instead, Yellow-billed Cuckoos.

HistoryMiami, e169 1987-078-346

cies to and from South Florida, their shyness towards humans, their nests and nesting habitat, and their diet, including their now well-known fondness for poisonwood fruit. As interesting as the pigeon image is the Geiger tree branch and flowers illustrated with it. The twig was picked by Strobel from an across-the-street garden in Key West. This trees' nativeness to South Florida has been questioned<sup>68</sup> as it is an attractive West Indian species having a fine ornamental flower (well rendered in Audubon's print) and so could easily have been imported to Key West. But it is found in the nearby Bahamas and Cuba and its fruit is dispersed by floating in currents, so there also is little reason why it could not have gotten to Florida on its own.<sup>69</sup>

The history of Audubon's Key West Quail-dove (167) observations is a story similar to that of the Zenaida Dove. He had been looking for this species specifically because of the specimen Strobel had sent to Charleston. On studying the specimen head, Audubon, understandably, was quite struck by its coloration and even worried over his ability to draw it well. He gave it the common name of Key West Pigeon. He described it correctly as a bird of deep cover and also described its nests and eggs and the fact that they were seasonally abundant enough to support a hunting season, prior to migrating away for the winter. Audubon no doubt secured much of this information from others, as he found himself unable to procure one on his own. The specimen he drew was shot by Sargent Sykes. Like the Zenaida Dove, this species today nests in nearby Bahamas but occurs in South Florida only as a vagrant.<sup>70</sup> This is a substantial change in its historic status as described by Audubon.

The last dove Audubon reported from the Keys, the Blue-headed Quail-dove, is something of a mystery. Audubon claimed to have seen a pair in the wild and another captive pair. Locals told him that they were common on some of the keys he did not visit. He did not collect one; the specimen he drew was sent to him later by Lt. Day, who told him he found it in the Tortugas. Audubon stated unequivocally that the species was a seasonal migrant from Cuba, returning to the Keys in the spring for nesting. But, in fact, the Blue-headed Quail-dove (172) is a non-migratory endemic Cuban species, now endangered, that

other than Audubon's record has not been reported from North America.<sup>71</sup> How likely is Audubon's story? Despite its current biology, might there have been in the past a migratory subpopulation that nested on the Keys? Might they have arrived as caged birds, like the ones Audubon saw, and been released in the Keys? There remains so much uncertainty as to the origin of his specimen, that Audubon's account has not been accepted by ornithological authorities.<sup>72</sup>

Audubon's decision to include the Black-throated Mango (184) hummingbird was no doubt unwise, and he knew it. Audubon was uncharacteristically cautious in presenting the bird only through quotes from John Bachman, who sent it to him, and admitted that he could not be certain that the specimen was procured in the United States. The specimen originated with the otherwise reliable Dr. Strobel who states he picked it up off a shrub in Key West. It is a South American species naturally reaching no further north than Trinidad or Panama, but it has a very large range and is a long distance migrant within this range. So vagrancy is not impossible. It is, however, highly unlikely, and Audubon's record has been rejected by authorities.<sup>73</sup>

The Gray Kingbird, which he called the Gray Tyrant and Pipery Flycatcher, was special to Audubon. On unexpectedly seeing this species for the first time, Audubon was lulled into a contemplative mood, observing its behavior, appreciating what a unique opportunity it was to encounter this species—before he shot it. Somehow, he pieced together the essence of this tropical species' biology in South Florida, its migrations, spring arrival time in Florida, feeding behavior, courtship, tameness on the nest yet defensiveness of territory. Likely much of the information on seasonality must have come from conversations with knowledgeable locals, given his own short time in the Keys.

The Mangrove Cuckoo (169) was an unexpected find for Audubon. In fact, Audubon admitted to overlooking this species, assuming they were, instead, Yellow-billed Cuckoos, and used this as a cautionary lesson to himself and others about the dangers of presumption, a lesson also offered in the Gray Kingbird account. Once a specimen was presented him by a soldier, he took pains to make observations of the species' habitat, nesting, and feed-

ing, although he was somewhat thwarted by the bird's tendency to inhabit deep cover. The bird is shown on a seven-year apple drawn by Lehman, which although an interesting Keys shrub is not a plant of deep cover.

### **Audubon's Departure**

After his return to Key West from the Dry Tortugas, it became time for the *Marion* to retrace its route, northward to Charleston. It proceeded in a rather leisurely fashion, no doubt to continue accommodating Audubon. The ship anchored overnight off six keys before standing at Indian Key and staying for another three days. All this offered time for Audubon and his guides to explore more. As was the case for the rest of the cruise, the ship's crew busied itself with "ship duties" and boarding passing vessels. The officers and crew had very much adopted Audubon and his mission, as had many of the others he had engaged. Audubon's approach to life and work, derived from the intensity of his personality and commitment to his project, had led to the successful recruitment of sailors, a customs officer, a pilot, wreckers, the local newspaper editor, and other local citizens to his service.

Audubon had made the most of it. Biologically, his waterbird volumes showcased birds no one had identified scientifically before, birds that had not previously been known from North America, birds no one else had figured; and he would provide natural history accounts no one else had recorded. His artistically mature paintings from this expedition would show waterbirds and other species in their natural setting, in natural postures, doing natural things, a distinct advancement over the profile drawings of waterbirds that had gone before. His unprecedented observations from south Florida, once published, confirmed just how much he was contributing to the science of the day. Knowing the success of his trip, Audubon profusely thanked the officers and crew of the *Marion* and the people of the Florida Keys. The *Marion* set sail for Charleston on May 31, completing a tour of just over five weeks in South Florida and carrying with it Florida's first great naturalist.

## Endnotes

- 1 *The Birds of America* was John James Audubon's great life's project and one of the most singular undertakings in the history of natural history art, influencing generations of artists, ornithologists, and somewhat serendipitously conservationists. His intention was to illustrate all species of birds found in North America. The project was begun about 1811 and not completed until the late 1830s, a period during which the avifauna of North America was still being discovered, and Audubon aimed to help lead this process. His original paintings, mostly done in watercolor but often multimedia, were drawn from specimens, many of which he collected for the purpose. His 1832 trip to South Florida was to acquire specimens to draw, especially waterbirds, which were the focus of his next volume. Most of the extant original watercolors are owned by the New York Historical Society, including 430 used in *The Birds of America*. Samples from the Society's collection, "Audubon's Watercolors for the Birds of America", are made available for public display periodically. Facsimile prints of the original watercolors are available as part of *Audubon's Watercolors: The Complete Avian Collection*, from Joel Oppenheimer Inc. (<http://audubonart.com>). The original watercolors are discussed in Annette Blaugrund and Theodore E. Stebbins, Jr., eds., *John James Audubon, The Watercolors for the Birds of America* (New York: Villard Books Random House, New York Historical Society, 1993). The paintings were used by engravers W. H. Lizars and R. Havell to produce prints, under supervision of Audubon and his family, published in five-print numbers collected into four folio volumes of 100 plates for the first three volumes and 135 plates for the fourth volume, as *The Birds of America; from Original Drawings by John James Audubon*, Vol. I. 1827-30, Vol. II. 1831-34, Vol. III. 1834-35. Vol. IIII. 1835-38. One hundred twenty complete sets are known to exist, and these are among the most valuable of all books, a collection in 2011 garnering the highest price ever paid at auction for a book, over \$11 million dollars (Scott Reyburn, "Birds of America' Book Fetches Record \$11.5 Million," *Bloomberg*, 7 December 2010). Unprotected by copyright, numerous samplings and editions of Audubon's bird portraits have been printed over the years. They can be viewed online at several sites including <http://audubonart.com/john-james-audubon>, <http://digital.library.pitt.edu/a/audubon/>, or <https://www.audubon.org/birds-of-america>. In 2015, HistoryMiami exhibited its set of the first

edition Lizars/Havell *The Birds of America*, the only time all prints have been displayed at once. The present paper was written in conjunction with that exhibition.

- 2 John James Audubon provided information on his travels in South Florida in books written to accompany *The Birds of America*. Audubon wrote accounts supporting the plates, writing about such topics as the appearance and habits of the species of birds, their anatomy and measurements, the plants depicted and other aspects of the bird's habitat, and his personal experiences as well as second-hand accounts from others. He also provided vignettes derived from his experiences illustrating "scenery" of North America and the "manners" of Americans. The text was published in five volumes: John James Audubon, *Ornithological Biography, or an Account of the Habits of the Birds of the United States of America, Accompanied by Descriptions of the Objects Represented in the Work Entitled The Birds of America, and interspersed with Delineations of American Scenery and Manners* and as *Ornithological Biography, or an Account of the Habits of the Birds of the United States of America, and interspersed with Delineations of American Scenery and Manners*. (Edinburgh: Adam & Charles Black, 1831-1839). Later, somewhat edited editions combining text and plates, were published in 7 and 8 volumes entitled *The Birds of America, from Drawings Made in the United States and their Territories*. Being in the public domain, Audubon's *Ornithological Biography* is available online or in facsimile from several sources such as Google Books and Amazon.
- 3 The explorations of Juan Ponce de Leon in South Florida are well studied to the extent that documentation persists, e.g., T. Frederick Davis, "History of Juan Ponce de León's voyages to Florida: Source records," *Florida Historical Society Quarterly* 14:1 (1935): 3-70; Charles W. Arnade, "Who was Juan Ponce de León?" *Tequesta* 27 (1967): 29-58; Robert H. Fuson, *Juan Ponce de León and the Discovery of Puerto Rico and Florida*. (Blackburg, VA: McDonald & Woodward Publishing Co., 2000). The role of Ponce and the Cape Florida lighthouse in the history of Key Biscayne may be found in James A. Kushlan and Kirsten Hines, *Key Biscayne*. (Charleston, SC: Arcadia, 2014).
- 4 William C. Sturtevant, "The Last of the South Florida Aborigines," in Jerald Milanich and Samuel Proctor, eds., *Tacachale: Essays on the Indians of Florida and Southeastern Georgia during the Historic*

- Period.* (Gainesville, FL: University Press of Florida, 1978): 41-162; John H. Hann, *Indians of Central and South Florida: 1513-1763.* (Gainesville, FL: University Press of Florida, 2003).
- 5 Mark Catesby, *The Natural History of Carolina, Florida and the Bahama Islands.* (London: Published by author, Vol. I, 1731; Vol II, 1743). Available online at <http://xroads.virginia.edu/~ma02/amacker/etext/home.htm>.
  - 6 William Gerard de Brahm, *De Brahm's Report of the General Survey in the Southern District of North America, Tricentennial Edition.* (Columbia, SC: University of South Carolina Press, 1971). Bernard Romans, *A Concise Natural History of East and West-Florida* (New York: R. Aitken, Bookseller, 1776); available in facsimile from Kessinger Publishing ([www.kessinger.net](http://www.kessinger.net)).
  - 7 Mark Van Doren, ed., *Travels of William Bartam* (New York: Dover Publications, 1955, an unabridged republication of a work published by Macy-Massius, 1928).
  - 8 Florida naturalists, Titian Ramsey Peale. <https://www.flmnh.ufl.edu/naturalists/peale01.htm>.
  - 9 Pamela Gilbert, *John Abbot: Birds, Butterflies, and Other Wonders.* (London: Merrell Holberton, Natural History Museum, 1998).
  - 10 Edward H. Burt, Jr., and William E. Davis, *Alexander Wilson, The Scot who Founded American Ornithology.* (Cambridge, MA: Belknap Harvard, 2013).
  - 11 See: Alexander Wilson, *American Ornithology; or, the Natural History of the Birds of the United States: Illustrated with Plates Engraved and Colored from Original drawings taken from Nature*, 9 volumes, (Philadelphia: Bradford & Inskeep, 1808-1814). The last volume was prepared by George Ord, who was to become Audubon's self-appointed tormentor. Lucien Bonaparte continued the work, adding 100 species. See: Alexander Wilson, with a continuation by Charles Lucien Bonaparte, Prince of Musignano, with Illustrative notes, and Life of Wilson by Sir. William Jardine Bart, *American Ornithology or, The Natural History of the Birds Inhabiting the United States*, 3 Volumes (London: Whittaker, Treacher & Arnot, 1825-1833).

- 12 Kathryn Hall Proby, *Audubon in Florida: with Selections from the Writings of John James Audubon*. (Coral Gables, FL: University of Miami Press, 1974):15-34.
- 13 C. L. Bachman, John Bachman Haskell, and John James Audubon, *John Bachman: the pastor of St. John's Lutheran Church, Charleston*. (Charleston, SC: Walker, Evans and Cogswell, 1888); available from Google Books. Jay Shuler, *Had I the Wings, The Friendship of Bachman & Audubon*. (Athens, GA: University of Georgia Press, 1995). Albert E. Sanders and William Dewey Anderson, *Natural History Investigations in South Carolina: from Colonial Times to Present*. (Columbia, SC: University of South Carolina Press, 1999): 45-78. George Gifford, Jr., "Edward Frederick Leitner (1812-1838) Physician-Botanist," *Broward Legacy* 27 (2007): 5-23.
- 14 Kathryn Hall Proby, *Audubon in Florida*: 38.
- 15 Audubon has been the subject of numerous biographies, notable being Richard Rhodes' Pulitzer Prize winning *John James Audubon: The Making of an America* (New York: Knopf Doubleday, 2004). Also William Souder, *Under a Wild Sky: John James Audubon and the Making of The Birds of Americas*. (New York: North Point Press, 2004). Cuvier quote: Proby, *Audubon in Florida*: 13.
- 16 To the scientific community of the time, both Audubon's paintings and observations were not without their critics. His paintings deviated from the long-established norm of scientific illustration, and many of his observations were not only unique but seemingly far-fetched. In some cases, such as depicting a rattlesnake climbing in a bush to eat birds, he had to defend his written reports for years after. Audubon's role as a scientific reporter is discussed by Amy R. W. Meyers, "Observation of an American woodsman: John James Audubon as field naturalist," in Annette Blaugrund and Theodore E. Stebbins, Jr., eds., *John James Audubon, The Watercolors for the Birds of America* (New York: Villard Books, Random House, New York Historical Society, 1993): 43-54. The evolution of his acceptance from the point of view of the ornithological community can be assessed in Robert Cushman Murphy, "John James Audubon (1785-1851), an evaluation of the man and his work," *New York Historical Society Quarterly*. (1956): 315-350.



- 17 Much has been made of Wilson vs Audubon controversies, which continue even today, as for example see the perspective offered by Burt and Davis in *Alexander Wilson*. Wilson's opus preceded Audubon's similar treatment and was continued and later republished by Wilson's Philadelphia colleague, George Ord. Ord and Wilson's engraver Alexander Lawson were threatened by this upstart Audubon, as they personally were continuing to profit from Wilson's works. They kept Audubon from being accepted in Philadelphia, causing him to go to England for an engraver and for acceptance. During his life, Wilson himself likely gave Audubon little thought. He expressed his opinion that nothing came of his time in Louisville and that he found no naturalist of any use there, this despite his having met Audubon there and seen his paintings. Audubon increasingly came to resent both Wilson's opinion of their visit and his treatment by Wilson's literary successors, especially as his fame grew and he began to eclipse Wilson. Audubon, cagily, showing superficial respect, shares his resentment with his readers several places in *Ornithological Biography*, perhaps best in his Wilson Plover account. Audubon challenged Wilson not only in his writings but through some of his paintings in which he positioned his model exactly as Wilson had done in order better to show his work's superiority. To be fair, their art was hardly comparable: Wilson drew in the then-current tradition of scientific illustration and Audubon in the naturalistic, story-telling tradition of the Romantics. And some of Wilson's greatest supporters were also Audubon's, especially Charles Lucien Bonaparte, son of Napoleon Bonaparte's periodically estranged brother, who helped Audubon in both Philadelphia and Europe and remained a steadfast colleague even while producing a competing work expanding Wilson's treatments. The Frenchman in Audubon was clearly very pleased by his being favored by a Bonaparte, whose princely title he often cited, even though it actually came from the Pope rather than from France.
- 18 Proby, *Audubon in Florida*: 13-14.
- 19 Proby, *Audubon in Florida*: 27.
- 20 Proby, *Audubon in Florida* provides an account of Audubon's journey through Florida and, very importantly, a rendering of the log book of the US Revenue Cutter *Marion*. Audubon's time in South

Florida is covered on pages 35-46, the log book on pages 364-70. Audubon's accounts of his trip and the log of the *Marion* show that the ship and its crew were very much at Audubon's disposal. The ship spent much time at anchor or in port doing 'ship's work' while Audubon was off exploring using crew and boats from the ship or the local Customs's office. The *Marion*'s movements between anchorages and ports were leisurely, with much time spent at anchor off various keys. The passage was such that Audubon was able to continue exploring by smaller boats and was readily able to catch up each day. Although the ship had been scheduled to go to the Keys, one of the cruise's specific assignments was to carry Audubon to Key West, later expanded to the Tortugas. However, the ship's log mentions his presence almost as an afterthought. This likely is not an oversight. The overall impression is that this was very much Audubon's trip, but not to be documented officially as such.

- 21 Jerry Wilkinson, "Dr. Benjamin B. Strobel," *Keys History*, Historical Preservation Society of the Upper Keys, <http://www.keyshistory.org/IK-BB-Strobel.html>.
- 22 Jerry Wilkinson, "History of Indian Key," *Florida Keys History Museum*. <http://www.keyshistory.org/indiankey.html>.
- 23 T. Ralph Robinson, "Henry Perrine, Pioneer Horticulturist of Florida," *Tequesta* 2 (1942): 16-24; Reprinted from *Proceedings of the Florida State Horticultural Society for 1937*. Jeanne Bellamy, ed., "The Perrines at Indian Key, Florida, 1838-1840," *Tequesta* 7 (1947): 69-78.
- 24 Joan Gill Blank, *Key Biscayne*. (Sarasota, Florida: Pineapple Press, Inc., 1996). Kushlan and Hines, *Key Biscayne*, 20.
- 25 Gifford, *Broward Legacy*. Leitner was a valued Audubon colleague who had provided the controversial drawing of a yellow water lily used to illustrate the Tundra Swan plate. He also is credited with natural history observations Audubon published, specimens, and as a witness to Audubon's vulture experiments. He was a respected member of the Charleston natural history community and a volunteer for military expeditions to collect plants. He was a South Florida explorer after Audubon, even crossing the Everglades to Cape Sable. Audubon noted his death in his American Flamingo account.

- 26 Wilkinson, "History of Indian Key."
- 27 Henry Marks, "The Earliest Land Grants in the Miami Area" *Tequesta* 18 (1958): 15-21. The Egan Audubon lavished praise on was Mr. James Egan (aka Hagen, the pronunciations not being very distinguishable in Bahamian English), who was one of the earliest land owners on the southern mainland (Rebecca Smith, HistoryMiami, personal communication). James Hagen (as recorded on the plats of the day) and his mother each received 640 acre land grants along the Miami River from the Spanish governor in 1810, both of which were confirmed by the United States government in 1825. Between 1830 and 1835, about the time of Audubon's visit, the Egan's were conveying their Miami River holdings to a former South Carolinian from Key West, R. R. Fitzpatrick. Audubon's guide owned much of what was to become Miami.
- 28 Edward H. Dwight, "Notes about paintings" in John James Audubon, *The Original Watercolor Paintings by John James Audubon*. (New York: New York American Heritage, 1966).
- 29 Dorothy Dodd, "Jacob Houseman of Indian Key," *Tequesta* 8 (1948): 3-19.
- 30 Proby, *Audubon in Florida*: 365, 369.
- 31 F. M. Hudson, "Beginnings in Dade County," *Tequesta* 5:1 (1943): 1-35.
- 32 James A. Kushlan, personal observation.
- 33 Jerry Wilkinson, "History of Key West," *Florida Keys History Museum*. <http://www.keyshistory.org/keywest.html>.
- 34 Strobel was a physician, writer, founder and editor of the *Key West Gazette*, a natural history collector, and a mentoree of John Bachman, from whom Audubon bore a letter of reference. Even before Audubon's departure to the Keys, he had seen a specimen Strobel had sent back to Charleston, the head of what Audubon later named the Key West Quail-dove. Strobel was well known in Charleston. He wrote not only for the *Key West Gazette* but also the *Charleston Mercury*, later publishing "Sketches of Florida" there. Excerpts were reprinted by E. A. Hammond as "Dr. Strobel reports on southeast Florida,

1836.” *Tequesta* 21 (1961): 65-75; available online at [http://digitalcollections.fiu.edu/tequesta/files/1961/61\\_1\\_05.pdf](http://digitalcollections.fiu.edu/tequesta/files/1961/61_1_05.pdf) Strobel closed his newspaper and left Key West not long after Audubon’s departure, in September 1932. In his “Sketches of Florida,” he provides background on the Indian killing of the family of William Cooley on the New River settlement (now Fort Lauderdale) in 1836, whom he knew personally as a Justice of the Peace and property owner in Key West, suggesting again how close Indian warfare was to Audubon’s visit.

- 35 Benjamin Strobel, *Charleston Mercury*, June 28, 1833; re-published in Proby, *Audubon in Florida*: 42-44. Benjamin Strobel, *Key West Gazette*, May 23<sup>rd</sup>, 1832; re-published in Proby, *Audubon in Florida*: 46.
- 36 Unless otherwise cited, the information on Audubon’s trip is derived from various accounts in *Ornithological Biography* supplemented by the log of the *Marion* published in Proby, *Audubon in Florida*: 364-70.
- 37 See Proby, *Audubon in Florida*: 36-38; Taylor Clark and Lois Elmer Bannon, *Handbook of Audubon Prints*. (Gretna, LA: Pelican, 1991): 90-108.
- 38 In the accounts that follow, the English names of birds adhere to those currently accepted for North and Middle America as listed by AOU, *Check-list of North American Birds* (Washington, DC: American Ornithologists’ Union, 1998); along with subsequent updates, *Birds of North and Middle America Checklist*. These are accessible online (<http://checklist.aou.org/>). Parenthetical numbers associated with a species are the plate numbers from *The Birds of America* based on bird specimens collected in South Florida. Images noted without numbers are not understood to be based on South Florida collected specimens, even though the species might occur there. Plate numbers differ somewhat among editions and secondary source treatments and Roman numerals, as originally used by Audubon, are not necessarily unambiguous. So, for consistency, plate numbers in this paper follow Clark and Bannon, *Handbook of Audubon Prints*: 90-108.
- 39 Kushlan, personal observation. For status of waterbirds in the Bahamas see James A. Kushlan and Melanie J. Steinkamp, “Seabird

nesting and conservation in the northern Bahamas,” *Waterbirds* 30 (2007): 613-623.

- 40 The numbers of birds Audubon killed tends not to comport with most modern sensibilities and conservation ethics. This was not the case in Audubon’s time. In the nineteenth century, hunting was deeply part of the American culture and character. Millions of birds were killed for market, leading, for example, to the extinction of the passenger pigeon and the severe reductions in populations of shorebirds, wading birds, and fowl. Bison were almost hunted to extinction. Audubon, conforming to his well-nourished public image, particularly in Europe, was indeed a true woodsman keenly skilled with a rifle and wilderness survival. He used his take for specimens to draw, to supplement his diet and that of his colleagues while in the field, and also for sport. The sailors, his guides, and local watermen ate their way through their trips by killing birds and game. Parts of *Ornithological Biography* read like a wildlife cookbook. Not until century’s end, six decades after Audubon’s Florida trip, did the loss of bird and animal life to hunting come to the fore as a public issue. It was then that Audubon’s name came to be associated with the fledgling conservation movement in the United States, which developed around bird protection. This happened mainly because the name was so well known it would help with marketing the cause, because his pictures were so well liked by the public, and because one of the movement’s founders, George Bird Grinnell, editor of *Field and Stream*, had attended the school of Lucy Audubon, John’s wife. Adoption of the name worked well. See Frank Graham, Jr., *The Audubon Ark: A History of the National Audubon Society*. (New York: Alfred A. Knopf, 1990).
- 41 Kushlan and Steinkamp, *Waterbirds*: 613-623.
- 42 Antony W. Diamond and Elizabeth A. Schreiber, “601 Magnificent Frigatebird,” *Birds of North America*. (Philadelphia, PA, and Washington, DC: The Academy of Natural Sciences of Philadelphia and the American Ornithologists’ Union, 2002). Eric Staats, “Tagged in Barbuda, Magnificent Frigatebirds migrate to Collier,” *Marco Eagle* (2011): <http://www.naplesnews.com/community/marco-eagle/magnificent-frigatebird-barbuda-tagged-marco-found>.

- 43 Elizabeth A. Schreiber and Robert L. Norton, "649 Brown Booby," *Birds of North America*. (Philadelphia, and Washington, DC: The Academy of Natural Sciences of Philadelphia and the American Ornithologists' Union, 2002).
- 44 AOU, *Check-list of North American Birds* and its updates is the official and definitive source for the taxonomy and occurrence of birds in North and Central America. Audubon's records have been vetted by the AOU Check-list committee over the years, including those from South Florida. For the accepted range of the brown booby, see pp. 28-29. William B. Robertson, Jr., and Glen Woolfenden, *Florida Bird Species: An Annotated Checklist* (Gainesville, FL: Florida Ornithological Society Special Publication, 1992) discuss Audubon's Florida records more explicitly.
- 45 James A. Kushlan, personal observation.
- 46 James A. Kushlan and James A. Hancock, *The Herons*. (Oxford: Oxford University Press, 2004), 150-55
- 47 Ibid.
- 48 Ibid.
- 49 Blaugrund and Stebbins, *John James Audubon, The Watercolors for the Birds of America*.
- 50 Kushlan and Hancock, *The Herons*: 83. David A. Sibley, "Great White Heron – not just a color morph," *Sibley Guides*. (2007): <http://www.sibleyguides.com/2007/11/great-white-heron-not-just-a-color-morph/>. Heather L. McGuire, "Taxonomic status of the great white heron (*Ardea herodias occidentalis*): an analysis of behavioral, genetic, and morphometric evidence," *Final Report*. (Tallahassee, FL: Florida Fish and Wildlife Conservation Commission, 2002).
- 51 James A. Kushlan, personal observation. James A. Hancock, James A. Kushlan, and M. Philip Kahl, *Storks, Ibises, and Spoonbills of the World*. (London: Academic Press, 1992), 146-56.
- 52 James A. Kushlan, "Sexual dimorphism in the White Ibis," *Wilson Bulletin* 89 (1977), 92-98.

- 53 James A. Kushlan, "Foraging behavior of the White Ibis," *Wilson Bulletin* 89 (1977), 342-345.
- 54 Hancock *et al.*, *Storks, Ibises, and Spoonbills of the World*,: 275-81.
- 55 Blaugrund and Stebbins, *John James Audubon, The Watercolors for the Birds of America*: x.
- 56 BirdLife International, "*Phoenicopterus ruber*," *IUCN Red List of Threatened Species, Version 2013.2*. (Gland, Switzerland: International Union for Conservation of Nature): <http://www.birdlife.org/datazone/speciesfactsheet.php?id=3769>.
- 57 Amy Kraft, "Wild Flamingos return to Florida," *National Audubon Society*. <https://www.audubon.org/news/wild-flamingos-return-florida>
- 58 Associated Press, "Largest Flock of Wild Flamingos in Florida History Found In Palm Beach County," *CBS Miami*. (2014): <http://miami.cbslocal.com/2014/05/12/largest-flock-of-wild-flamingos-in-florida-history-found-in-palm-beach-county/>.
- 59 James A. Kushlan, personal observation.
- 60 AOU, *Check-list of North American Birds, 153*. Robertson and Woolfenden, *Florida Bird Species: An Annotated Checklist*.
- 61 William B. Robertson, Jr., "The Terns of the Dry Tortugas," *Bulletin of the Florida State Museum* 8:1 (1964), 1-94.
- 62 James A. Kushlan, personal observation.
- 63 James A. Kushlan and Deborah A. White, "Least and Roseate Tern nesting sites in the Florida Keys," *Florida Field Naturalist* 13 (1985), 98-99.
- 64 FWC, "Sandwich Tern," *Florida's Breeding Bird Atlas: A Collaborative Study of Florida's Birdlife*. (Tallahassee, FL: Florida Fish and Wildlife Conservation Commission, 2003): <http://www.myfwc.com/bba/>.
- 65 Kushlan and Steinkamp, *Waterbirds* 30 (2007),: 613-623.

- 66 Robertson and Woolfenden, *Florida Bird Species: An Annotated Checklist*.
- 67 Bruce Hallett, *Birds of the Bahamas and the Turks & Caicos Islands*. (London: MacMillan Caribbean, 2006).
- 68 Richard P. Wunderlin and Bruce F. Hansen, *Guide to the Vascular Plants of Florida*. Third Edition. (Gainesville, FL: University Press of Florida, 2011), 348.
- 69 By the time other naturalists came to South Florida, the large leaf Geiger tree was to be found as far north as the hammocks of what would be Miami. The tree is named after Captain John H. Geiger, who was the Key West harbor pilot and a wrecker, and eventually a wealthy man with a large estate in Key West. The flowered twig that was drawn was secured from the two trees in his yard. Geiger's mansion was later to become the "Audubon House," home to the Wolfson set of *The Birds of America*, which later became HistoryMiami's set.
- 70 Hallett, *Birds of the Bahamas and the Turks & Caicos Islands*. Robertson and Woolfenden, *Florida Bird Species: An Annotated Checklist*.
- 71 BirdLife International, "Species factsheet: Blue-headed Quail-dove, *Starnoenas cyanocephala*," (Cambridge: BirdLife International, 2015): <http://www.birdlife.org/datazone/speciesfactsheet.php?id=2603>.
- 72 AOU, *Check-list of North American Birds*, 232. Robertson and Woolfenden, *Florida Bird Species: An Annotated Checklist*.
- 73 AOU, *Check-list of North American Birds: 287-288*. Robertson and Woolfenden, *Florida Bird Species: An Annotated Checklist*.

The author wishes to thank Joel Oppenheimer and Rebecca Smith for their advice on this paper.