

DESCRIPTION OF YOUNG HYBRID

The young hybrid is almost identical to a Green Violetear but larger and with chin, upper throat and centre of breast a glittering turquoise.

REFERENCE

ELGAR, R. J. 1977. The breeding of a hybrid hummingbird, Brown Violetear X Sparkling Violetear. *Acad. Mag.* 83: 130-134
(see also, CORRECTION, p. 237)

THE IVORY-BILLED WOODPECKER *Campephilus principalis*

By JOHN V. DENNIS (Princess Anne, Maryland, USA)

What was my reaction when I first saw the ivory-bill? This is a question that people not infrequently ask me and sometimes with a look of scepticism on their faces. Everyone would like to see a living Ivory-billed Woodpecker but few people believe that the bird still exists. Thus the very mention of "ivory-bill" evokes the same kind of bemused doubt that greets a believer in the Loch Ness monster or abominable snow man. This does not surprise me since, when searching for the bird, I have often felt that I was looking for an unseen presence. Yet this is a bird that I have seen several times, and to share my experience with the ivory-bill and tell something of its past, present, and uncertain future, I have brought together the following pages.

Audubon called the bird the "Van Dyke" because of its elegant attire. The Indians, recognizing its other-worldly character, put a high value upon the bill and feathers. These trophies were regarded much as wampum and used as an article in trade. Mark Catesby, writing in 1731, stated that the Canadian Indians make "coronets of 'em (the bills) for their princes and great warriors, by fixing them round a wreath, with their points outward." He went on to say that the northern Indians purchased the bills from southern tribes for anywhere from two to three buckskins a bill. A hundred years later the trade was still underway. Audubon spoke of entire belts of Indian chiefs ornamented with the feathers and bills of the ivory-bill.

As the years went by, the ivory-bill slowly gave way before the American Indian, white settler, lumberman and, not least in importance, the museum collector. Unlike the Pileated Woodpecker, *Dryocopus pileatus* which superficially resembles it, the ivory-bill showed no tendency to adapt to man. Wherever wilderness disappeared, the ivory-bill also disappeared. Once widespread and found from the Ohio River and south-eastern North Carolina to Florida and eastern Texas, the ivory-bill has steadily retreated. The same process has repeated itself in Cuba where the insular race has retired to the remotest mountains of Oriente Province.

By wilderness, I do not necessarily mean pristine wilderness with big trees. I have good reason to believe that the ivory-bill is able to adapt to cut-over timber. But the stumbling block is that it seems to require an ingredient that is ever harder to find these days — *solitude*. Wilderness filled with hunters, fishermen and vacationers is incompatible with its needs.

Regarding size and general appearance, overall measurements considerably exceed most of those found in the crow-sized, dark-plumaged Pileated Woodpecker. The ivory-bill is a striking contrast in black and white. This is evident both when the bird is at rest and when flying. The Pileated also shows white in its wings when it is in flight, but the white is in different places. A good look at the wing pattern of any North American woodpecker as it flies is a valuable clue to its identity. Another helpful clue is that the

ivory-billed and pileated are the only crested woodpeckers in North America. Also useful is the all-white bill of the ivory-bill. However few of those reporting an ivory-bill mention the bill. This is because the bird is usually flying away from the observer and hence the bill is not visible.

A few other identifying features are worth mentioning. The flight of the ivory-bill is straight and duck-like while that of the pileated is undulating like most woodpeckers. The ivory-bill has a strange call note that has been likened to the sound of a clarinet or tin trumpet, and also a conversational chatter. Finally the ivory-bill does not drum in characteristic wood-pecker fashion; its way of expressing itself is to make a double rap upon hollow sounding objects.

So long as much of eastern North America was clothed by unbroken forest, the ivory-bill was secure so far as food was concerned and safe from all enemies except man. If dead trees and the beetle larvae they supplied (its main source of food) became scarce, the ivory-bill moved to another part of the forest. This was its habit. Essentially nomadic and moving from one area of recently dead trees to another, it was not restricted by territorial boundaries. Even when nesting, according to Dr James T. Tanner, noted authority on the ivory-bill, it roamed a territory of about 6 square miles.

Even before the forests were felled, the ivory-bill could not be regarded as common. Early ornithologists were always thrilled by any experience they might have with this strange, almost legendary bird. Alexander Wilson, on slightly wounding an ivory-bill near Wilmington, North Carolina, took the bird to his hotel room. During his absence the bird created considerable havoc to the walls and furniture. Wilson was touched by this bird's piteous calls.

By the early 1800's the ivory-bill seems to have retired to the deepest and most remote swamps it could find. Whether the large timber of southern swamps was always its home is not known. Very often its nesting site was a hole in a cypress tree. On the other hand, it was sometimes observed roaming pine forests in search of food. The Cuban race of the ivory-bill seems to be primarily a bird of the pine forest. Perhaps persecution by man drove the North American ivory-bill to the heavily timbered swamps that blanket whole river valleys in parts of the south.

More than anything else the ivory-bill's call note was its undoing. As I know from personal experience, the ivory-bill is extremely hard to locate through vision alone. Its contrasting black and white plumage blends too well into the lights and shadows of the forest where it makes its home. In the words of Audubon, its eerie, oft repeated call note is the circumstance that leads to its destruction. The call is so unmistakable and unlike other sounds of the forest that anyone with a trained ear can quickly recognize the presence of an ivory-bill. Tanner stated that all the ivory-bills he had ever seen were first located by hearing the distinctive call note.

So few ivory-bills were reported after 1920 that many began to assume that the bird was already extinct or was about to follow the Passenger Pigeon and

Carolina Parakeet into oblivion. But with the discovery of the ivory-bill in the 80,000 acre Singer Tract in Louisiana in 1932 and reliable reports, at about the same time, of the ivory-bill in the Santee Swamp in South Carolina, there was a mild surge of optimism. Tanner, writing in 1941, estimated that some 24 ivory-bills were left and these scattered in about five areas in Louisiana, Florida, and possibly South Carolina. He admitted that looking for an ivory-bill in the immense wooded swamps of the South was like looking for "an animated needle in a haystack". I agree with this statement and am inclined to believe that Tanner was much too cautious in estimating ivory-bill numbers. The great difficulty in finding the bird, coupled with uncertainty regarding sightings made by others, makes counting ivory-bills a near hopeless task. Moreover failure to find the bird in a given area is no proof that it is not there. This was a conclusion reached by Arthur A. Allen and Peter Paul Kellogg in relating their experiences with the ivory-bill in Florida and Louisiana.

In 1934 the number of ivory-bills in the Singer Tract stood at a high of 18 birds, but in 1939 the number had fallen to 8. This decline had taken place without logging and without any known persecution by man. Roger Tory Peterson, visiting the Singer Tract in May of 1942, was elated to have caught glimpses of two birds. A final sighting of a Singer Tract ivory-bill seems to have been made in 1948. This was after the Tract had been heavily logged.

Much less is known of the occurrence of the ivory-bill in the Santee Swamp of South Carolina. It was presumed that any birds along the lower Santee vanished with the lumbering and hydro-electric development that took place in this area in the late 1930's and early 1940's. Yet reports of ivory-bill sightings continued to come in from the Santee and adjacent swamps until about 1971.

There is a large element of uncertainty involved in judging reported sightings of the ivory-bill. Many people jump to the conclusion that any large woodpecker with some white on it is an ivory-bill. Only a good look, with special attention to the wing pattern, can confirm the fact that the bird is an ivory-bill and not a pileated. When in flight, the pileated shows a considerable amount of white, especially on the under-surface of the wings. There is also confusion with the much smaller Red-headed Woodpecker *Melanerpes erythrocephalus*. Careless reports involving other species of woodpeckers have done much to discredit the genuine report that now and then comes to light. This situation has led some ornithologists to throw up their hands and call all "ivory-bill sightings" cases of mistaken identity. As a result there has never been any real programme instituted to save the ivory-bill. The overly sceptical have seen to this.

In the meantime, the insular race of the ivory-bill in Cuba has, if anything, fared more poorly than the bird in North America. Even before 1900, it appeared to be on the verge of extinction. In April of 1948, in company with Davis Crompton of Worcester, Massachusetts, I visited Oriente Province at the eastern end of Cuba in order to investigate rumours of the bird's

occurrence in remote mountain districts. We had luck beyond all expectations. After searching fruitlessly for several days in big timber along stream valleys, we shifted our attention to burned-over, cut-over pine forests. No sooner had we entered a pine studded ravine several miles south of the small lumbering town of Moa than we saw fresh diggings in dead trees. Later we located an active nest site in a dead pine tree. The male and female of the pair were taking turns on eggs. A third bird, possibly an offspring from a previous nesting, lingered in the immediate vicinity. We returned from Cuba with photographs of the birds as well as a skull of an ivory-bill found at the base of the nest tree. The skull was deposited with the Museum of Comparative Zoology at Harvard while an account of our expedition appeared in the October 1948 issue of *The Auk*.

With the coming of the Fidel Castro regime a curtain fell on the future of Cuba's few remaining ivory-bills. Luckily within the past few years Warren B King of The International Council for Bird Preservation has established correspondence with two Cuban ornithologists who have tried to follow the fortunes of this bird. I am indebted to Dr King for sharing with me his most recent correspondence from Cuba. Writing in June 1974, Orlando H Garrido stated that he was afraid that no more than 6 or 8 pairs still existed. He based his estimate largely upon the hope that an undiscovered population existed in the mountains south of Moa. But he felt that the bird was near extinction and that the problem lay more with intensive lumbering than persecution by man. Luis S Varona, writing in July 1974, stated that the ivory-bill is fully protected by wardens at two reserves and that the timber in these reserves is also protected. He mentioned an ivory-bill sighting in May of 1972 and another, at a different location, in November of 1973. Two reserves have been established for the protection of the ivory-bill by the Cuban Academy of Sciences. These are Cupeyal and Jaguani in Oriente Province.

On returning from Cuba, I came to know Herbert L Stoddard, a well-known ornithologist, who was as familiar as anyone with the Ivory-billed Woodpecker in Florida and Georgia. During four Florida boyhood years, between 1896 and 1900, he had seen somewhere between 12 and 15 ivory-bills. Stoddard did not agree with a view held by James Tanner that the ivory-bill required virgin timber. He noted, for example, that a taxidermist shot a pair of ivory-bills in 1924 in a tract of timber in Florida that had been heavily cut over in 1904. Stoddard blamed the decline of the ivory-bill almost entirely upon "the man with a gun." Although he was very close-mouthed, it was well known in ornithological circles that Stoddard knew a great deal about the recent whereabouts of the ivory-bill. I did learn this much from him. He and a fellow passenger in a small plane circling over the Altamaha River in Georgia during a thunderstorm clearly saw an ivory-bill in flight at a distance of no more than 150 feet. The sighting was over the lower Altamaha but no date was given. Probably it was in 1958 that Stoddard observed a pair of ivory-bills in beetle-killed spruce pine near Thomasville, Georgia. In Stoddard's autobiography MEMOIRS OF A NATURALIST published in 1969,

he states: "I have observed three ivory-bills in the Southeast in the last fifteen years, and while these sightings are several years old, I feel quite confident that the ivory-bill still has a chance to survive."

In early March of 1950, while a graduate student in ornithology at the University of Florida, I joined another ardent ivory-bill searcher, Whitney Eastman, on an expedition to the Chipola River in northwestern Florida. Local woodsmen had reported the ivory-bill in swamps along the river. After a day or two with Eastman and his party, I began to have misgivings about the venture and thought it best to return to my studies at the University. To my great surprise, a few days later newspaper accounts across the country told of the rediscovery of the ivory-bill by Eastman and his party. A male ivory-bill was said to have been seen on March 3rd and a female the following day. In spite of a strong wish to believe this report, I found myself in the same camp as the sceptics. Nevertheless I made a return trip to the region and again saw nothing. Finally, in April of 1951, my luck along the Chipola took a turn for the better. The same guide that had been with Eastman assured me that he would show me an ivory-bill. "No sircce, this ain't one of them good gods," he said. "This here's an ivory-bill for sure."

When country people used to seeing the smaller woodpeckers saw the much larger, more spectacular bird that was the Pileated Woodpecker, they were apt to exclaim "Good God!" Hence this common name that was in use in many parts of the South. The still more spectacular ivory-bill was sometimes called the lord god.

My scepticism about the Chipola stemmed partly from exaggerated accounts given by the guide. Whenever a large woodpecker showed itself in the distance, it was always an ivory-bill. He even made the claim that ivory-bills had once nested in a large magnolia tree by his cabin. I was encountering what might be called "backwoods embellishment." Regardless of what it was, the backwoodsman always felt compelled to elaborate beyond what might be called the facts of the matter. He did not realize that the mere existence of an ivory-bill was more exciting and more valuable than any story he could possibly concoct. I was to meet this same kind of embellishment on even a larger scale in the Big Thicket of Texas.

As it turned out, this time my guide used good judgement. I was left in a rowboat, partially concealed by cypress trees, and within sight of a large dead tree where an ivory-bill had reportedly been seen going to roost toward dusk. As the minutes slowly ticked by, I began to feel a mounting excitement. There was something to be said for the confident manner of my guide. It was nearly dark when I was startled by the sound so well described as the tooting of a child's tin trumpet. A few blasts came from the darkness beyond the roost tree and then silence. I watched and listened for a while longer, and then my guide appeared and took me back to camp. This, to my knowledge, was the last time the Chipola offered any evidence of the ivory-bill.

During the fall of 1966, after a long absence from the search, I was again in pursuit of the ivory-bill and this time in cut-over pine woods that reminded

me of the habitat I had seen in Cuba. On August 28 of that year, two eager bird watchers from Chicago, Bedford P Brown, Jr. and Jeffrey R Sanders, were driving east from Pensacola, Florida when they decided to leave the coastal highway on the chance that they might sight a wild turkey. After entering the wild, desolate fringes of Eglin Air Force Base, near Pensacola, they came to a clear flowing stream where pine trees merged with creek bottom hardwoods. On a sudden impulse, they got out of their car and stood watching and listening at a narrow bridge. Suddenly the loud toots that I was now familiar with came from out of the heavy growth that lined the stream. In writing to me about this experience, Brown described what an eerie, suspense filled few minutes they had until they caught sight of two large woodpeckers scaling bark from trunks of beetle-infested pine trees. He went on to say: "Our entire experience with the birds totalled only about 16 minutes. We have not the slightest doubt in our minds that the birds were correctly identified as ivory-billed woodpeckers. In fact, I would go so far as to say that the unique call note of the ivory-bill would make the identification of the bird a simple matter for me."

I did not have the same luck. During the two weeks that I explored the area where the Brown and Sanders sighting had been made, I stumbled upon a secret weapon's testing site and had other close encounters with the military. My conclusion, as I reported to the World Wildlife Fund, under whose auspices I was conducting my search, was that the two men in question had had the extremely good fortune to chance upon a pair of ivory-bills foraging in recently beetle-killed pine trees.

I should not conclude my Florida accounts without saying something about a bizarre occurrence involving what may have been ivory-bills at an undisclosed location in Polk County north-west of Lake Okeechobee. I say bizarre because the evidence gathered by the two searchers, H Norton Agey and George M Heinzmann, was so contradictory. Beginning in 1965, these men, learning of a possible ivory-bill in a wooded tract on a large ranch, began making frequent trips to the area. At first it was a game of hide-and-seek with an unseen presence. Later they caught tantalizing glimpses of one or two large woodpeckers that seemed to fit the description of an ivory-bill. When a storm toppled a tree containing a large roost or nest hole, the men retrieved two small fluffy blackish feathers and a white feather from the hole. The feathers were sent to the Smithsonian Institution where the white feather was identified by Dr Alexander Wetmore as that of an ivory-bill. This should have clinched the matter. But then came disappointment. The searchers submitted tapes of calls they thought were those of the ivory-bill. The Cornell Laboratory of Ornithology reported back that the calls were those of the Pileated Woodpecker. The findings of this strange case were therefore inconclusive.

In December of 1966, I turned my attention to the Big Thicket of Texas. This heavily wooded area, with its swamps and upland forests of hardwoods and pine, had long had a tradition of ivory-bill presence. But not since 1904

had there been a confirmed record. Where should I begin looking in an area that contained approximately 500,000 acres?

But I did have one clue. The previous April, Mrs Olga Hooks Lloyd, well known among Beaumont, Texas bird watchers, had reported to friends that she had seen an ivory-bill in the Neches River swamp near the Steinhagen Reservoir. Her description of the bird was so convincing that I decided to concentrate my search in this area. It was a region of dark winding bayous, trees laden with Spanish moss, and many trees dead and dying as a result of flooding. Toward dusk, on the second day of my search, I was rewarded once again with a nasal trumpet-like call that I decided could only be produced by an Ivory-billed Woodpecker. Because of rain and impassable roads, I was forced to postpone my search for a few days.

On December 10th, I had taken the same route twice along the edge of a winding bayou without seeing or hearing anything encouraging. Then it happened! The magnificent bird I had been searching for suddenly rose in front of me. Sweeping majestically from where it apparently had been feeding on the ground, it soon settled upon the trunk of an enormous cypress tree. Before I could view it again with my binoculars, it had circled around to the far side of the trunk and within seconds had taken flight to the dense woodland on the far side of the bayou. I was exuberant; yet at the same time disappointed over not having seen more of the bird. The black, chill waters of the bayou were far from inviting. But after failing to find a way across, I finally waded in and barely made the opposite bank without having to swim. Donning my clothes, I set out in the direction the bird had taken. Soon I was lucky enough to see the ivory-bill perched on a stump and with wings outspread as though protesting the nearby presence of other birds. Numerous small birds and also a pair of Pileated Woodpeckers were in the immediate vicinity. I had come upon one of those mixed flocks you find in the winter woods. Although the light was poor, I got the general impression that the crest of the bird was black, thus making it a female. The male ivory-bill has a red crest.

Further search in Texas by myself and others has contained many disappointments, glimpses of possible ivory-bills, unverified call notes, and finally the recording of the ivory-bill calls on tape. This recording, which I made on February 25, 1968, when searching for the ivory-bill under the auspices of the National Geographic Society, has since been reported upon favourably by Dr John William Hardy of the Florida State Museum. The only reservation that Hardy first made after subjecting the tape to repeated careful analyses was that there was a suggestion of Blue Jay *Cyanocitta cristata* mimicry in the notes. He felt he could not rule out the possibility of a Blue Jay having given a remarkably accurate rendition of the ivory-bill tin trumpet call. But Hardy, after making spectrographic and principal frequency analyses of Blue Jay calls, has written me since that the Blue Jay calls bear no resemblance to those of the ivory-bill. The notes I recorded that February day, without seeing the bird that made them, have therefore been established

as those of the Ivory-billed Woodpecker. A tape had not been made of the ivory-bill's voice since Allen and Kellogg of Cornell obtained the only recording ever made in February of 1935. This was in the Singer Tract.

Knowledge of ivory-bill presence in the Big Thicket did much to spur efforts toward the creation of a Big Thicket National Preserve. In October of 1974 a bill was passed by Congress and signed by the President creating a Preserve of 84,550 acres. This acreage was not in one solid tract but in a number of smaller tracts, thereby embodying the "string of pearls" concept. This concept called for the preservation of isolated tracts of prime importance throughout the Big Thicket.

What about the Big Thicket today? Has the saving of some wilderness and continued logging and exploitation elsewhere affected the ivory-bill? Since there are almost no figures to go upon, about all I can do is hazard a guess. I am reasonably confident that the ivory-bill still holds on in parts of the Big Thicket. Among a number of sightings in recent years that have come to my attention, there is one by William Mounsey that deserves attention. In May, 1976, with a team from the University of the Wilderness in Colorado, Mounsey set out to explore remaining ivory-bill habitat in the Big Thicket. After visiting more southerly sections, the party reached the Steinhagen Reservoir near where I made my sighting in December of 1966. Mounsey with two other members of the party claim they saw a male ivory-bill in flight on May 21. A second bird, or perhaps the same bird, was seen some 7 to 9 miles away by a member of the party on May 22.

If these reports are trustworthy, and I believe they are, the ivory-bill is probably still holding on in the Big Thicket. This would be encouraging news, for nowhere in presumed ivory-bill habitat has change come so drastically and so quickly as in the Big Thicket. The whole character of this once great wilderness is changing and no one knows what effect this may have upon the several endangered species of the area.

Turning to Louisiana, where ivory-bill history was made during the days of the Singer Tract, I can find much the same story that I found in the Big Thicket. The tradition of former ivory-bill presence is strong while every so often a hopeful report comes to light. Probably the river swamps of southern Louisiana and nearby Mississippi are as likely places as any to look for the Ivory-billed Woodpecker at the present time.

One of the most extraordinary ivory-bill stories every to my way of thinking, came out of a Louisiana swamp a few years ago. A business man was in the habit of training his hunting dogs in the Atchafalaya Swamp which lies about 20 miles west of Baton Rouge, the city where he lived. He knew something about birds and more than once spotted a large woodpecker flying away in the distance that reminded him of pictures he had seen of the ivory-bill. He took the matter to someone he already knew who was an authority on birds. This was Dr George Lowery, foremost Louisiana ornithologist and a pioneer in finding and learning about the ivory-bill in the Singer Tract. As Lowery knew from long experience reports of this kind were all too often based upon

mistaken identification. Therefore he treated the man's reports with the scepticism he thought they deserved.

Lowery's acquaintance did not give up. He began taking a camera along with him into the swamp. Then came the day he had been waiting for. The date was 22 May 1971. This time the birds—a pair of them—were closer than ever before. Trying to create as little disturbance as possible, he returned to his car in order to cage his dogs and then he began stalking one of the birds with his small camera. By this time the female ivory-bill had disappeared, but the male, occupied at a hole about 40 feet up on a tree trunk, gave him his opportunity. He had time to click off a single shot with his camera, and then another one after the bird moved to a second tree. Overjoyed, he returned to Baton Rouge with the proof that would convince his friend.

This time Lowery was impressed. He returned to the spot with the man but failed on this trip and succeeding ones in finding an ivory-bill. Nevertheless he put enough confidence in the man's sincerity and the photographs (poor though they were) to give this sighting discrete publicity. A brief account of the event, that appeared in the October 1971 issue of *AMERICAN BIRDS*, contained neither the photographs, the name of the man, nor even the name of the swamp. Apparently Lowery was afraid that the photographs, because of their poor quality, would not be accepted as valid evidence. Indeed this proved to be the case. The photographs were passed around to a number of fellow ornithologists. The comment was highly unfavourable ranging from scepticism to charges of outright fraud so far as the dog trainer was concerned.

But no one should write off the Atchafalaya swamp, a heavily forested bottomland, lying parallel to the Mississippi River and measuring about 30 miles in width and 100 miles in length.

Although heavily cut-over and bearing little resemblance to Tanner's description of ideal ivory-bill habitat, it almost certainly supports, or has supported, a number of Ivory-billed Woodpeckers. Dr Lowery told me personally that one of his students in November 1967 had identified an ivory-bill in the Atchafalaya Swamp. Then came the much disputed photographs, which, if anything, seemed to create more scepticism than ever. But almost overlooked in connection with this controversy is a brief note that appeared in a 1975 issue of *AMERICAN BIRDS*. Only these facts were stated: on 11 November 1974 an observer, Robert Bean, sighted an ivory-bill in flight when driving along a main highway some 20 miles west of Baton Rouge. Bean, the note went on to say, had identified the bird on the basis of its characteristic wing pattern.

Mr. Bean, who is director of the Louisville Zoo, kindly responded to questions I asked him about his sighting. Driving eastward in a lorry over a long bridge across the Atchafalaya swamp, he suddenly saw directly in front of him an ivory-bill flying at car-top level. The bird, no more than 15 feet away, was flying across the highway. During the five seconds or so that the bird was in view, he saw it barely clear the guard rail and then alight in a tree

at the edge of the swamp. He couldn't stop because of the traffic and the added hazard of having a cargo of zoo animals in his lorry. Sure of his identification, he told his extraordinary story to Burt Monroe, a well-known ornithologist living in Kentucky. Hence the bare details that reached AMERICAN BIRDS. The record takes on added significance when it is realized that the sighting was made in the same general part of the swamp that had witnessed the photographic attempts by Lowery's friend.

What of the future of this rarest of the *rarae aves*? Has the bird a chance when wilderness is ever in shorter supply and few will even admit that the bird exists? While I have no great reason for optimism, I am encouraged by the many efforts now underway to preserve southern swamps. As more such lands come under protection, the ivory-bill may yet find the food, shelter, and solitude it needs. Let us hope that it is not too late.

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THE ISLE OF PINES AMAZON

Amazona leucocephala palmarum

By RAMON NOEGEL (Seffner, Florida).

Here at the New Age Ranch we are often asked what is the difference between the nominate race *A.l. leucocephala* and the Isle of Pines Amazon. Since we have only the existing captive collection of the various representatives of this group, with the exclusion of *bahamensis*, we will try to give a good comparison. I have personally had specimens of both the Cuban and the Isle of Pines subspecies in my possession since 1946. The Cuban Amazon was the first large parrot I ever owned and has remained my favourite ever since. In 1946 they were the cheapest Amazon on the market and we had two lovely examples. Many of our Cuban neighbours had these parrots and I suppose there were as many as sixty here in Tampa at that time. It was not uncommon to see them in their cages on front porches or on balconies of apartments in the downtown Latin quarter.

Palmarum, has a deeper scarlet red on the throat and cheeks whereas the nominate race has more of a pink cast in this area of colour. This holds true for the Bahamas' representatives of *leucocephala* also. Therefore we might say the farther east in range, the more pink the colour of the throat and cheeks, whereas the further west and south, the deeper the red. The vinaceous is richer and more pronounced, often verging on a purple appearance. This colour is more accented with black edging on each feather than in the Cuban Amazon. In the Isle of Pines Amazon both sexes are equally the same in the deep scarlet throat colouring. In the Cuban the throat and cheeks of the male during breeding season are a deeper hue than is evident in the female. Due to the heavy black edging on the green feathers, *palmarum* appears a darker green. It is a slightly larger parrot than its Cuban neighbour. The eye ring is larger and the white on the crown is more extensive. In most specimens there is a pink feather in the black ear coverts or just above or behind them in the green feathers. There is of course much individualism due to age and genetics. However, in both the Cuban and Isle of Pines Amazons there is less variability than may be witnessed in both the Cayman Islands Amazons *caymanensis* and *hesterna*.

Before the depletion of the species on Cuba, well over a thousand species were annually shipped to England, Europe and the United States. By the 1940's the parrot hunters began turning their attention to the Isle of Pines for a better source of supply. The island at that time was mainly used for agriculture and there still existed vast forested areas where the parrot's habitat remained secure. Their nests were usually in the bowl of a dead Royal Palm where a woodpecker had previously nested. The parrots would simply enlarge the existing accommodation by digging and chewing out the soft fibre of these decaying palms.