



Naturally tame young Red bill dwarf hornbills.

Captive breeding and rearing of

Red Billed Dwarf Hornbills

(*Tockus camurus*)

by Phyllis K. Martin
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On August 8, 1980, a friend and I went to purchase some finches and canaries. When we arrived at the wholesale house there was someone ahead of us so we started looking around. We both spotted a small cage sitting on the floor behind some boxes and immediately said "I want them." We knelt down to observe the most interesting birds I had ever seen. Inside the cage were four black and white pied-colored birds with stiff eyelashes and long curved reddish-orange bills similar to Toucans. My heart melted. I just had to have these birds and my friend felt the same way. We were told these unusual birds were Dwarf Hornbills. Well this little bit of information just sealed the deal for me. I was going home with these neat little birds. Needless to say I couldn't be greedy by taking all four birds so I agreed to take one pair. How to tell a pair was our next problem. After looking closely at these birds we noticed two of them were larger in size and had black markings in their lower mandible. We each took home what we thought were a pair and hoped for the best.

When I got home my husband was as enthusiastic as I was about our new additions. After looking through all of the books I have, we learned Hornbills vary in size with the Dwarf Hornbill being only 15 inches long and the Ground Hornbill reaching a very large size. The range of the Hornbills extends through Africa south of the Sahara, but excluding Madagascar, and across tropical Asia from southern Arabia to the Solomon Islands and Philippines. These birds nest in hollow trees, sealing this hole with a masonry composed of mud and juices. Since I could find very little information on the breeding habits during my research I was determined to try and raise the Hornbills and keep records of my successes and failures.

The Hornbills were put in an outdoor flight measuring 8 feet long, 4 feet wide, 7 feet high, concrete floor, aluminum roof, and constructed from 1/2 inch welded hardware cloth with 1x2 inch wooden framework. The lower 3 feet of the cage

has pressed board around it to help protect the birds from cats and dogs. The Hornbills' cage is located just outside the door leading from our Florida room to the yard. On the right of their cage are two more flights of identical size housing cockatiels and finches. The Hornbills, therefore, get a lot of attention and human traffic since we have to pass their cage twice a day to feed and water the rest of our birds.

Once the birds were established in their cage my husband constructed a nest out of a palm log measuring 36 inches high by cutting off the top fourth, hollowing out the inside to a cavity of 8 inches in diameter and 12 inches deep. He then glued the log back together and drilled a round opening 10 inches from the top. We then put the log in one corner of the flight, placing the opening 40 inches from the floor. Now we could sit back and enjoy these beautiful birds and, with lots of luck, have them produce for us.

We experimented with the diet for our new birds. I made up cafeteria style plates for them daily, which consisted of mealworms, soaked Purina Cat Chow, chopped apple, banana, Dry Wayne Dog Meal, and Mynah Bird pellets adding a powdered vitamin. Since figs were supposed to be one of the Hornbill's favorite foods, I tried giving them some — soaked, fresh and otherwise — but it was no use because they would not eat them. They ate small amounts of the chopped fruit but the mealworms were quickly eaten, then followed the other food items. Also any lizard, roach or mouse who happened to pass through the Hornbills' cage became a quick meal. After observing them relishing these live foods we kept our eyes peeled for any live tidbit. The pressed board around the bottom of the flight was the perfect home for mice until the Hornbills learned of their hiding place. The Hornbills would go to the floor of the cage, start hammering at the wood until they chased a mouse out and presto — instant dinner. Since the finch flight is located near the Hornbill's cage I also fed them baby finches which had fallen out of

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the nest.

After experimenting with the Hornbills' diet we came up with the following "Basic Diet" of which 1/2 was fed in the morning and the remainder in the early evening.

1/8 cup mealworms;

1/2 cup Wayne Dog Meal or Science Diet Canine Maintenance dog food;

1/8 cup Mynah Bird Pellets;

1 cup "Hornbill Mixture" — consisted of:

1/3 of a pound cake crumbled up (substitute 5 slices whole wheat bread)

1 fresh carrot, 1 leaf endive (substitute 2 tablespoons of mixed vegetables)

2 tablespoons of "Bird of Prey Meat" (substitute Gerber's or Heinz' baby food beef, chicken, etc. or a high protein canned catfood.)

1/4 cup chopped fruits (apples, bananas, grapes, pears)

Powdered vitamin supplement

Over the next few weeks we spent as much time as possible watching the Hornbills. During the early part of November they started vocalizing and doing their courtship dance. The sound they make is similar to saying "Bach, Bach, Bach" (pronounced like the composer's name).

The male Hornbill would start making this sound, gradually increasing the tempo, and adding a double "Bach-Bach" near the end then start bouncing up and down on the perch with his wings spread. The female would answer the male's call with a shorter version of his call. After a couple of days the two birds did their calling and dancing in unison.

On November 10, 1980, the female started pecking at the opening in the palm log. She would get a beak of mud, take it to the opening, and move her bill back and forth packing the mud firmly in place. Needless to say my husband and I were beside ourselves with excitement. After five days of working on the nest the female abandoned it.

We were apprehensive about leaving our Hornbills outdoors as winter came to Florida. We covered the flight cage on three sides with plastic, the floor was covered with straw to eliminate the damp and cold. The front of the cage was left uncovered because it faces our Florida porch.

Well spring came and our Hornbills were doing fine — no ill effects from winter. Summer came and they continued to eat everything in sight. Up until this time we had seen no signs of the Hornbills courtship as we observed during last fall. Since they had worked the nest last year in the fall we decided to give them another nest box so they would have a choice. Our new nest box was constructed out of 1/2 inch plywood, measuring 9 inches wide, 13 1/2 inches long, 17 1/2 inches high. The perch was located 7 inches from the bottom of the box, the 3x5 inch opening was located 3 1/2 inches from the top. We hung this box 4 inches from the top of the flight cage in the opposite corner from the palm log. I also put fresh potting soil on the floor of their cage.

Not until early August did I notice the Hornbills taking an interest in nesting. On August 19, 1981, they started gathering up dirt located near their water dish, rolling it around in their beaks and carrying it to the plywood nest box. I started wetting the soil in the cage daily so it would be of a mud consistency. After working from 9:00 a.m. to 5:00 p.m. for two days on the entrance of the box the female hornbill went inside. Should we dare hope? The male then passed mud chunks to the female and she in turn plastered up the cracks on the inside of the box. The male also carried food to her during this time. On August 23, 1981, the female finished mudding up the opening on the box leaving a 5 inch high 1/2 inch wide slit in the shape of a lazy "S."

The next day it started to rain. The rain fell for three days and I started worrying about whether it would be too damp in-

side the nest box. We checked daily, cleaning the floor of the cage and putting fresh soil and straw as needed. When I put the straw in the cage the male Hornbill decided to have a field day seeing how many pieces of straw he could carry to the female in just one day. What were they doing with all of this straw?

One day I decided to give all of our birds fresh cuttlebone and I gave the Hornbills one on the off chance they might use it. I didn't have to ask! The male immediately jumped on the cuttlebone. He started tossing it in the air and hammered it with his beak until he broke it into small pieces which he carried to the female. The male destroyed the first cuttlebone within thirty minutes and was still looking for more so I broke up two more large cuttlebones and threw them on the floor of their cage. The male again made short work of these — they disappeared inside the nest box along with the first one. Enough was enough. I'll give them more cuttlebone later. What they did with all of this cuttlebone remains a mystery. I guess the female used it to help line the inside of the nest because I saw the male eat only a few small pieces.

While the female was walled inside of the box I imagined all kinds of horrible things happening to her. But I didn't have to worry because the male came through like a knight in shining armor. Every morning at 9:00 a.m. he would get to work carrying food to his mate and pass her grapes and peas periodically to help wash down the dry foods. When the female accepted each morsel of food she would make a noise like a Dusky Lory. The male fed the female four times a day with the last meal being fed between 5:30 and 6:00 p.m. When the male wasn't on time with his catering duty the female would peck the side of the box and if this didn't bring a response from the male, she would call to him.

While the female was in the nest I added the following foods to their Basic Diet: 1/8 cup soaked raisins (substitute fresh grapes);

1/8 cup soaked Wardley turtle food (freeze dried insects) substitute Wardley tree crab food (freeze dried ocean shrimp);

6 to 10 live fish (platies, swordtails, or small goldfish);

Live mice, lizards, insects, etc. furnished by Mother nature

On September 27, 1981, the glorious event happened — we heard babies crying. We were so excited that I think we called everyone we knew. I checked the Hornbills continuously, even venturing inside the cage to try and hear the babies clearly. The male tolerated my intrusion

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but he warned the female of my presence by calling to her. After I left the cage the male stood on the perch outside of the box checking to see that everything was alright with his family. After the babies were heard, I noticed a set pattern in the male's feeding. I figured this might determine how many babies were in the nest. The male began his routine by carrying three food items up to the female, then he would eat one, carry three more, eat a couple of more and then take three or four more items to the female. By the last trip the babies had stopped crying and the female apparently ate the last tidbits herself. This ritual happened daily only the amount of food increased as the babies grew larger. I figured by then I had two babies, possibly three. As the female fed the babies their begging sounded like the Dusky Lory's scream also.

Our male was very devoted to his new family. For example, during one feeding he carried over 50 mealworms up to the female. Just before the female Hornbill came out of the nest box I was feeding the pair 15,000 mealworms every two weeks along with all of the other foods.

On October 22, 1981, the female Hornbill broke out of the nest box. She then helped the male carry food to the babies. The next day I went inside the flight to check the babies since the parents had not mudded up the opening where the female had broken out. Using a flashlight to illuminate the inside of the box I discovered two fully feathered Hornbill babies. These babies were smaller replicas of their parents, the only exception was their bills were shorter and they had more black markings in the lower mandible. Remember the straw? The inside of the box was stuffed up to the opening with straw and feathers and the babies were sitting level with the entrance.

On November 4, 1981, my husband noticed one Hornbill baby with his head sticking out of the nest box. At 9:00 a.m. on November 5th, our first baby fledged. Even if I was not there to see the event I would have known something was happening because the parents were talking and calling back and forth. The parents were very protective of their baby. One of them stayed near him at all times.

On November 8, 1981, at 9:00 a.m. the second baby decided to try his wings and out he came. The parents announced his arrival again by calling back and forth. The parents continued to feed the babies for another five days and remained very protective. Within the next two days the babies started sampling food on their own.

After the babies fledged, the food in-

take changed tremendously. The soaked raisins, grapes and fruits were ignored for the most part. While the female was in the box the male passed these fruits to her daily but once the babies had started eating on their own this intake stopped. I then decided to put the Hornbills back on their Basic Diet.

On November 23, 1981, my husband called me at work stating that one of the babies was on the bottom of the cage having fits. My heart sank. I rushed home and took the babies away from the parents and put them in a 2 x 2 x 2 foot cage. I took them to our store, set up their cage with a light for added heat and covered three sides of the cage. The one baby had two more fits and then straightened out. I put mealworms and crickets in their cage and soon both of them were down eating like they were starving. When my nerves settled down I talked to my husband about the babies and he said he had noticed the parents chasing them just before the baby had a fit. Apparently the parents were trying to tell the babies that it was time they ventured out on their own.

On December 22, 1981, my baby Hornbills had their portraits made by Mr. Dan Martin. Mr. Martin asked if the babies would sit on my hand or on an open perch. I told him I didn't know but I always talked to them and they would take food from my hand. After getting the camera ready, I took one baby out and he sat on my hand just like he knew what we wanted. When I put him on the perch he stood there looking around at his new surroundings for a few minutes and then decided to take a flying lesson. After this short flight he stayed on the perch. I then tried the second baby on the perch and they both had to fly around the room again. After catching them and putting them back on the perch I knelt down to one side, talking to them and they posed before the camera beautifully. I was so proud of them.

The parent birds went to look at the nest box recently. The female pulled out some of the straw but other than this mild curiosity they have showed no signs of rebuilding the nest. It took 81 days for the Hornbills to raise this clutch counting from when the female went into the box until the last baby fledged. I don't think we will get a second clutch because it is too late in the season.

Today is January 11th and the Hornbill babies have grown at a tremendous rate. They are the size of the parent birds with one exception, their bills are about half of their normal length. I have the two baby Hornbills on display at our pet store and they have attracted considerable attention. ●