



Parent-rearing the Hyacinth Macaw

A Comparative Study

by Kashmir Csaky, Forest, Virginia

Last year a pair of my Scarlet Macaws successfully raised a clutch of two babies. I interacted with the babies regularly and recorded valuable information about parent-reared birds. The Scarlet Macaw study motivated me to enter into a similar study with our Hyacinth Macaws. ("Parent Rearing the Scarlet Macaw" Nov/Dec 1999 *AFA Watchbird*)

Some of my objectives are:

- To compare the development (weights) of parent-reared birds to their hand-raised siblings
- To determine the natural weight loss at fledging and weaning.
- To determine at what age weaning begins and ends.
- To shape a parent-raised bird into an individual that is a good pet and a good breeding bird.
- To observe the behavior of wild caught parents taking care of their offspring.

History

Before I acquired this pair of Hyacinths, "London" and "Paris," they had produced four clutches of eggs. The first two clutches, contained two infertile eggs each. The lay dates of these eggs were not recorded. Beginning in May of 1987 they laid two clutches containing two eggs each. One egg in the first clutch yielded a live chick, while the other egg was clear. The second clutch also contained one fertile egg. However, the chick died while trying to hatch.

London and Paris have been in my care since November 1989. They laid their first clutch of two eggs in the

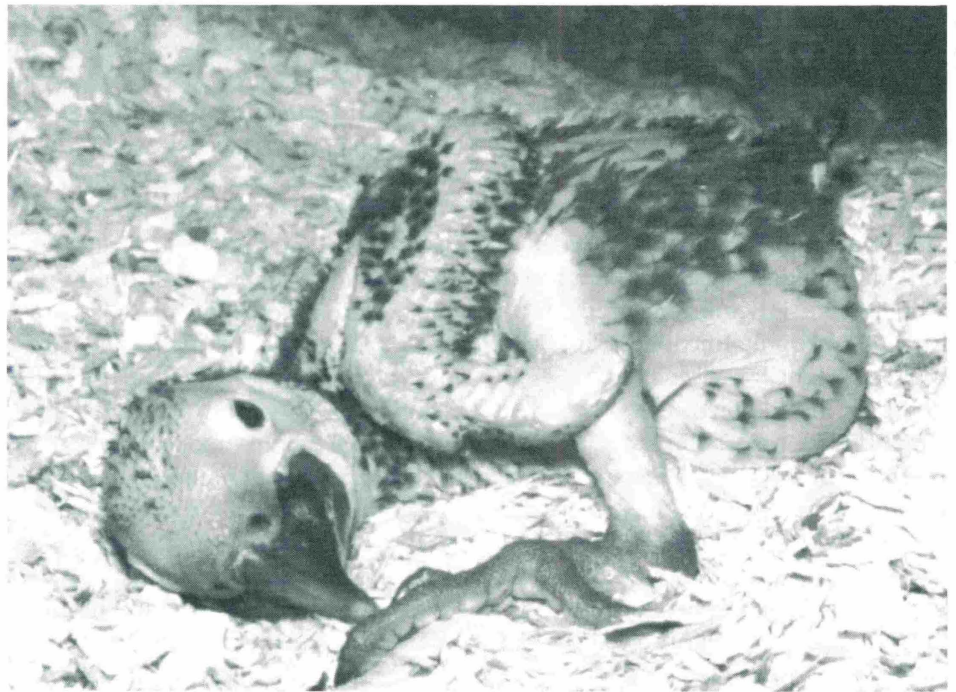


Photo by Joseph Csaky

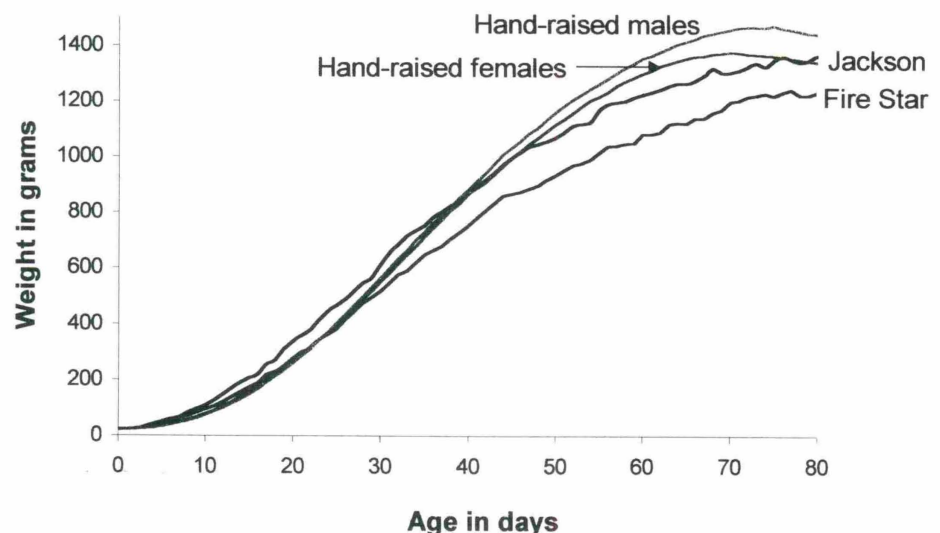
Fire Star in the nest

spring of 1991. Both eggs were fertile and both eggs hatched. They have had 26 babies hatch including the chicks they are raising now. The first 17 chicks were incubator hatched. While the next seven were left with their parents till they were three to four weeks old. Since the first two clutches were infertile and their fertility increased with time, I suspect that London and Paris were young birds when they first began to reproduce. I estimate that they are now in their early twenties.

At this time they have a clutch of two babies. I hope that I will be able

to leave one or both babies with the parents until they are fully weaned. The first baby, a male named Jackson, hatched August 29, 1999. The second baby, a female we call Fire Star, hatched August 31, 1999. Though the pair had obviously assisted chicks during hatch in the past, they either did not assist these chicks or they assisted them very little. Their last baby before this clutch hatched September 15, 1997. There was a second egg in the clutch that died during hatching. It appeared that they tried to help the chick out of the egg and had failed.

Hand-raised / Parent-raised



Procedure

Since one of my objectives is to compare the weights of hand-raised birds to parent-raised birds it is important to note that there were variations in the weights of the hand-raised babies. I saw a definite difference in the male and female birds. I also noted some differences in the weights of chicks hatched early in the breeding season and chicks hatched after several eggs were laid. In addition, the hand-feeding formula impacted the weights of the chicks. Three different hand-feeding formulas were used with varying results. I had the best success with the Pretty Bird handfeeding formula.

All hand-raised chicks were fed whenever their crops were empty. This required feeding incubator-hatched neonates around the clock.

Harrison's bird food was added to the diet of the adult birds in the spring of 1994. From that point forward our data indicates an increase of 100 grams in the average peak weights. Before feeding Harrison's all but one of the incubator hatched chicks had to be assisted during hatch and none of the chicks were able to hatch in the nest. Note: I am not endorsing any brand of food. I am merely stating what I expe-

rienced when I used different foods. There may be other factors that I was unable to control that could have affected my results.

While the parent-raised babies were very young, no deviation from the normal twice-a-day feeding schedule was required, although it was necessary to increase the amount of food fed at each meal. As the babies grew, the number of feedings had to be increased (they are now being fed six meals a day and one snack). The family consumes about seven times more food than the parents alone. Very little food is wasted. Their diet includes fresh fruit and vegetables, peanut butter muffins, pasta, Harrison's bird food, and a variety of nuts. The nut mixture is primarily macadamia nuts and includes almonds, filberts, Brazils, walnuts, and pistachios.

Physical Setup

The Hyacinths are housed in a room with a pair of Scarlet Macaws. Their flights are parallel to each other and five feet apart. There are glass sliding doors that permit natural light into the room. However, the room contains several banks of full spectrum lights and a large mirror that reflects light back into the room.

The flight is 5 feet by 5 feet by 16 feet long and suspended from the ceiling. The sheet metal nest box is 18 inches by 18 inches by 36 inches and has a thick piece of wood mounted on the front of the box for a more natural appearance. It is mounted horizontally with the entrance on an 18 by 18 inch side. The entrance of the nest box is 10 inches by 8 inches. The inspection door dimensions are 12 inches by 7 1/2 inches. I have learned that the orientation of the nest box is very important to most breeding Hyacinths. These birds like to be able to see out of the nest box and observe anything within sight. So the entrance must be large and the box positioned so that it provided the birds with maximum visibility. The male is able to make himself comfortable at the entrance while the female can see out of the box when she incubates eggs at the rear of the nest.

There are three observation cameras in use. One supplies a fixed view

of their flight, the other is mounted on a panning unit and the third camera is mounted on the top of the nest box to provide a view of what is going on inside the nest.

Hyacinth Macaw Parenting Partnership Diary

- 29 August 1999, Jackson hatches (22 g).

The first chick hatched today at 6:00 P.M. Yesterday he was already cutting through the shell. I think he could have hatched in the late morning had the parents assisted the hatch.

- 31 August 1999, Jackson 3 days (32 g), Fire Star hatches (21 g).

When I checked on the second egg last night, the chick was well positioned and had begun rotating. This morning at 8:00 the chick had pipped over half way around the egg and faced downward with one wing out of the egg. At 4:00 P.M the chick had both wings out of the egg and her head tucked in with a piece of shell over her head. I knew there were no active blood vessels that were still attached to her, so I removed the piece of eggshell that was on her head and placed the baby with the rest of the shell back in the nest. At this point the baby popped out of the shell. The inside of the eggshell contained feces and nesting material. It was evident that Fire Star could have easily hatched several hours earlier.

- 04 September 1999, Jackson 7 days (67 g), Fire Star 4 days (35 g).

Today I began feeding the birds three times a day. The soft food has been more than doubled and the dry food has been increased slightly. These babies appear to need more food than the previous seven babies that hatched in the nest. We did not weigh those babies since we were concerned that London and Paris would be upset. We plan to weigh these babies at least every other day until they are three weeks old, at which time we will check their weights daily. London and Paris seem to be handling this intrusion well. Yet, it is obvious they are concerned about the activity around their nest. Last year they also watched us weigh the



Photo by Joseph Csaky

Jackson is removed from the nest box to be weighed

Scarlet babies that were parent-reared, which could be affecting their attitude towards us.

- 12 September 1999, Jackson 15 days (206 g), Fire Star 12 days (120 g).

Jackson's eyes are open today, although they may have begun opening yesterday. From my experience I know that his eyes are open a little too wide for it to have occurred for the first time today. I suspect his eyes opened yesterday and that he was sleepy when we weighed him.

Paris's chest feathers are matted and appear wet. It looks like the babies defecate on her chest, belly, and feet. Although she tries, she is unable to remove all the feces from her body. The Scarlet Macaw hens have never looked this bad when they have babies. Other Hyacinth breeders that I network with have encountered the same problem with their Hyacinth hens. In spite of Paris's appearance the nesting material is relatively clean. We routinely remove and replace soiled nesting material when the babies are weighed. I hope Paris takes a good bath soon. Water is always available for bathing and London will bathe regularly.

- 14 September 1999, Jackson 17 days (254 g), Fire Star 14 days (156 g).

Fire Star's eyes opened today. Her weight is not as high as I expected. She is the same weight as the average incubator-hatched Hyacinth baby. Jackson's weight is only 20 grams less than the heaviest hand-raised baby.

- 21 September 1999, Jackson 24 days (445 g), Fire Star 21 days (289 g).

Hyacinth Macaw chicks are known for flipping over on their backs and kicking. A strange noise, an unfamiliar face or any kind of stress can precipitate this behavior. This can be very frightening for an inexperienced Hyacinth breeder. In extreme cases the chicks will jump into the air, flip onto their backs, kick wildly, scream and then go limp.

I wondered if I would see this behavior in the nest. I was also interested in observing how the parents would handle the situation. Fire Star began kicking today when I returned her to



Photo by Kashmir Csaky

Paris and Jackson

the nest. She was still on her back when I closed the observation door. Jackson however was very calm. When I left the room I turned on the monitors so I could see what was happening inside the nest box. Paris entered the nest and approached Fire Star. She gently touched the chick with her beak, causing Fire Star to kick once more. She waited a while then touched the baby again. Fire Star was still upset and continued to kick. Then she tried to push the chick to an upright position. The chick kicked her repeatedly in the chest, yet Paris did not back away. At this point London entered the nest. He walked around to Fire Star's side and he placed his beak under her right side, he slowly pushed her until she was standing. Paris moved closer to Fire Star and then placed her wing over the chick. I could see Fire Star's leg poking out from under her mother's wing. She was still kicking at the nesting material, however she calmed down within a few minutes.

- 30 September 1999, Jackson 33 days (715 g), Fire Star 30 days (516 g).

Jackson is also flipping over and kicking now. These incidents are less frequent and not nearly as intense as Fire Star's. Whenever he begins kicking

it is normally because Fire Star has kicked him first. I have noticed that certain behavioral characteristics are associated with hatch order in hand-raised chicks. The youngest chicks in a clutch are generally more nervous and easily frightened. So far, this also appears to be the case with the parent-raised birds.

It is more difficult to check the nest-box now. London and Paris seem to know when we are going to weigh the chicks and they will quickly enter the nest and refuse to come out. Due to this development, it is taking much longer than expected to weigh the babies. So we are still weighing the babies every other day except on weekends and any day my husband, Joe, has off from work.

Both parents share in the responsibilities of feeding the babies. One feeding can take up to 15 minutes per baby. The parents are now consuming four times the food they would normally eat.

- 07 October 1999, Jackson 40 days (870 g), Fire Star 37 days (680 g).

Jackson's weight is 41 g lower than the average weight of his male siblings. I consider this to be only a slight difference, however earlier in his development, he was next to the heaviest baby. Fire Star is slightly heavier than the

lightest hand-fed sibling. There are no visible signs of stunting; the babies began to feather at the same time as their siblings. They do not have uneven feathering or misdirected feathers on their heads. Their head and feet are well proportioned and they do not appear thin, dehydrated or hungry.

Paris finally took a bath today. She spent a great deal of time out of the nest after bathing. Neither parent is responding well when I offer to shower them. When they do not have babies, I get mixed reaction to showers.

- 14 October 1999, Jackson 47 days (1037 g), Fire Star 44 days (860 g).

One of the babies started screaming. I don't know which one it was. When I opened the nest box both birds seemed fine. Once I left the room the screaming started again. I turned on two of the cameras, on one of the monitors I could see what was going on inside the nest box, on the other I could observe the parents in the flight. When the baby stopped screaming Paris peeked into the nest. As she looked in the baby began to scream again. Paris jumped back as if she had been startled.

We took the babies out of the room for about 10 minutes and played with them. This is the first time they actually left the room.

- 16 October 1999, Jackson 49 days (1054 g), Fire Star 46 days (874 g).

Today we had friends visiting us from New Jersey. We took the babies out of the nest for about 15 minutes so that they could have a new and pleasant experience. The babies were very calm and comfortable.

London and Paris seem less concerned about us removing the babies from the nest now. In the past when their babies left the room they never came back. Now they seem to realize that we are not going to take their babies away. They are also very cooperative and quiet if I block the nest box alone. They have never been as comfortable with Joe as they are with me.

- 19 October 1999, Jackson 52 days (1113 g), Fire Star 49 days (917 g).

The differences in weights between these babies and my hand-raised babies

are more significant now than just two weeks ago. Fire Star is now 27 grams below the minimum weight. They still look healthy and their activity is normal for their age. However, their droppings now have a mild unpleasant odor. So I am adding vitamin C to their food twice a day. I have found vitamin C is very effective in eliminating foul smells from droppings when given promptly. If any of my babies have a bacterial infection vitamin C is given in addition to any prescribed medications (as long as I have veterinary approval).

To eliminate the possibility that the babies have a physical problem, my veterinarian came over today to examine them.

- 21 October 1999, Jackson 54 days (1127 g), Fire Star 51 days (951 g).

All the test results show that the babies are fine. The CBC and the blood chemistry all came back normal. The smelly droppings have already stopped.

- 25 October 1999, Jackson 58 days (1202 g), Fire Star 55 days (1017 g).

Today I saw one of the babies peeking out of the nest box entrance. I think it was Jackson. He was so cute. He watched me for a moment then retreated deeper into the nest.

- 27 October 1999, Jackson 60 days (1225 g), Fire Star 57 days (1042 g).

We have seen both babies near the nest box entrance. They almost always slip further to the back of the box or lie down when they see us. Yet, they love to come out to be weighed or to play.

This evening one of the babies began screaming and screamed too long for me to ignore it. So, I checked the nest and both babies looked fine. Fire Star's head feathers were slightly fluffed and I think she was the one screaming. When I left the room the screaming began again. So, I went back and took both babies out of the nest to get a better look at them. I could find nothing wrong with either baby.

I decided to take this opportunity to play with them. They seemed to enjoy playing and observing everything around them. They did not scream again after they were returned to the

nest. The babies are calmer and easier to handle, neither baby has kicked or flipped over since the 16th of October.

- 28 October 1999, Jackson 61 days (1233 g), Fire Star 58 days (1048 g).

While watching the birds with the nest box camera, I saw Paris feeding both babies. After she had finished feeding the babies London entered the nest box and fed Paris. She exited the nest and perched quietly near the food bowl. London looked at both babies as if he were having difficulties trying to decide which baby to feed first. The baby he chose to feed first was the one that Paris had just fed.

I frequently see London in the nest preening the babies. He has been spending more time with the babies since their pinfeathers began opening.

Paris has been sleeping in the nest box with the babies, while London would sleep on a perch near the nest box entrance. Paris has now joined London on the perch.

- 07 November 1999, Jackson 71 days (1312 g), Fire Star 68 days (1161 g).



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Jackson is a real sweetie. He loves to mouth just about anything. Whenever I am holding him he will attempt to preen my hand and arms. If I lean down and kiss him he will try to preen my cheek. Fire Star is a bit shyer than her older brother. However, once she is out of the nest box she becomes much more curious.

Jackson is very adventurous, perhaps too adventurous for his own good. Today I heard the male Scarlet, Magic, sounding a continuous alarm call. When I checked I found that Jackson had one wing and one foot out of the nest, while his parents were at the other side of the flight feeding each other. Magic appeared more concerned about what was happening than London and Paris. Jackson's attempts to return to the nest on his own were unsuccessful and he was beginning to panic. At one point he had both feet dangling in the air while he hung by his beak. So, I reached between the wire and pushed Jackson back into the nest.

- 09 November 1999, Jackson 73 days (1340 g), Fire Star 70 days (1201 g).

Jackson had a good scare the last time he tried to venture out of the nest. I hoped that his fear would keep him in the nest until he had developed better

coordination and could safely leave the nest box. I was too optimistic, because he came out again today and had to be assisted back into the nest. However, his coordination has improved to the point that he can perch on the entrance of the nest. He seems so eager to come out; I sometimes feel Jackson just wants to play with his parents.

London and Paris have learned that their babies might fall out of the nest. Paris is now spending more time in the nest with the babies during the day. She will also block the nest box so Jackson cannot come out. Yet, he still spends time looking out of the box without parental supervision. Fire Star will also look out of the nest from time to time, though she makes no effort to leave the nest.

Both babies flap their wings inside the nest box. They do not flap as much as I would expect. At this age their hand-raised siblings would exercise their wings more, in preparation for fledging.

- 16 November 1999, Jackson 80 days (1370 g), Fire Star 77 days (1234 g).

Although, I always check to make sure the babies are not peeking out before I block the nest, I cannot see what the babies are doing during the

process (I wish that I could find a way to correct this design flaw). Today as I blocked the nest entrance I caught Fire Star's beak. I heard a terrible scream, so I pulled the block down and heard both birds run to the back of the nest. I blocked the box again and opened the inspection door. Fire Star was backed up in a corner, obviously frightened. Yet, she let me pick her up without a struggle. She had two dents on the top of her maxilla. Later today I checked on her again and the dents had almost disappeared. Unless you knew where to look you would not have seen them.

- 19 November 1999, Jackson 83 days (1370 g), Fire Star 80 days (1234 g).

The hand-raised Hyacinth babies peaked in weight when they were around 70 days old. Jackson and Fire Star have continued to gain weight past 10 weeks of age. At this time it is not possible to determine conclusively from the weight records if these chicks have reached their peak weights.

London and Paris have grown more and more comfortable with both of us. They are much calmer around Joe now, so Joe is able to assist me while I block the nest box.

This morning Jackson was perched in the entrance of the nest as I collected the food bowls. London walked over to Jackson, his head began bobbing up and down and he fed Jackson some macadamia nuts that I had just given him. This is the first time either parent has fed one of the babies while they knew I was watching.

Conclusion

I feel this project has been very worth while and I will do more parent-raising. However, it is not something that I feel is worth while for every breeder or every pair of birds. Small breeders are likely to have the ability to observe their birds better than large breeders can. Small breeders probably can develop the type of relationship with their breeding birds that is needed to co-parent.


We are still gathering a lot of data and when it is analyzed and better understood, there will be a follow-up article to this one. 

Photo by Joseph Csaky



The author with two of her beautiful Hyacinth Macaws.