## First Breeding of Tahitian Blue Lories at San Diego Zoo

by John C. Mitchell Senior Keeper

The first time I saw the Tahitian Blue Lories they were in quarantine at the zoo's hospital. They were busily climbing about the eucalyptus branches provided for them, sampling all the flowers. All eight birds appeared to be in excellent vigor and I felt amazed at how they all seemed so content to be living in such alien surroundings. These birds had been smuggled into this country and smugglers, certainly, don't wish to attract attention to their merchandise while in transit. Thus, it's rather unlikely that these birds were transported using proper or comfortable shipping accommodations. We are truly fortunate to receive these birds alive at all. Their flying abilities were impaired because of broken feathers but with the next molt the birds quickly regained their normal plummage and capabilities.

All eight birds were installed into a large, especially prepared aviary at the San Diego Zoo in May 1978. The cage is heavily planted with a wide variety of plants including palms, dracencas, vines, giant bird of paradise, carrot wood, dwarf bamboo, and impatiens. The floor of the enclosure is covered with a layer of leaf mulch. In keeping with their "cavalier" attitude, the birds seemed immediately at home.

The birds typically begin to be active just before dawn each day. First they start vocalizing and then there is a brief period of rapid flights back and forth across the extent of the cage. All eight birds would be involved but they did not fly in unison as a flock. Next the birds would begin foraging, or bathing if there was sufficient dew on the plants leaves. Their bathing ritual is very comical. They get so excited as they climb about the bushes, rolling over on the leaves, and hanging upside down flapping their wings. In their frenzy they act as if each bird is trying to utilize all the water drops before another can get to them. They even appear to enjoy bathing on our coldest San Diego mornings.

In foraging, each bird moves about on its own. The birds are provided daily with palm or eucalyptus flowers for pollen, pieces of papaya, apple, banana, orange, and a pan of our special lory mix. In the

early morning hours the birds also forage among the plants in the cage. They pay particular attention to the undersides of the leaves, perhaps looking for small insects. Also they forage about the ground under the vegetation. They turn over leaves and root into the mulch. Occasionally they stop and eat something. The substrate in the cage does contain a large population of small insects and other arthropods. The Tahitians have been observed to eat an occasional mealworm (the moist viscera is eaten while the exoskeleton is discarded) and hardboiled egg yolk. Mealworms are provided for other cage inhabitants specifically. The Tahitians feed occasionally throughout the day, but discontinue foraging on the ground and among the plants by late morning, probably because the day's rations of fresh lory mix and fruits are provided at this time.

When appetites are satisfied the birds "explore" the cage randomly. They really enjoy walking upside down across the top wire of the cage. They have a curious gait when walking on the wire. They are stocky little birds and have an exaggerated waddle that makes them look like little mechanical toys. Sometimes the dead lanceolate leaves of a dragon tree outside the cage fall on the roof so that the long slender portion falls through the wire but the broad end of the leaf keeps it from going all the way through. The Tahitians like to hang on the leaves. Frequently they fly to them at full speed, grap them in mid-flight, and enjoy swinging on them like a pendulum under the wire of the roof. They also like to land on bird of paradise leaves and spring up and down like a yo-yo as the leaf bounces up and down from sudden addition of the birds weight.

Tahitians spend time each day chewing and shredding leaves. The bird of paradise leaves are particularly victimized. However, the vigor of the plant is not jeopardized because only the tips of the leaves are attacked. Frequently, small pieces of the youngest and tenderest leaves are eaten.

A Tahitian frequently stops activity throughout the day. The duration of the

"breaks" are quite short early in the day but increace in frequency and duration as the day advances. By late afternoon they are spending most of their time in their respective roosting spots.

By late summer of 1978 the birds looked great. Damaged feathers had been repaired or replaced and all the birds could fly properly. The blue of their bodies in full sunlight is dazzling and their white bibs immaculate — dapper little birds in blue and white tuxedos.

Also by late summer of 1978 it was obvious that six of the birds formed pairs. The other two birds would roost for the night together but were not particularly attentive otherwise. The pairs spend much perching time together in mutual preening. A bird would solicit preening from its companion by leaning toward it with the nape turned so as to be in easiest reach or preening assistance was initiated by a birds companion. The paired birds adopted a specific site that they would frequent most often for preening or roosting. Whether roosting for the night or just perched to rest or preen there is always bodily contact between a pair. Each bird touching its companion side to side. It is interesting to note that Tahitians can be spiteful little birds. A pair can be sitting together quietly and all of a sudden one bird will bite the other or hit it in the head with its beak. Then they'll resume sitting peacefully. Although the male is the instigator most times, the female also nips and jabs.

It was late August of 1978 when I had the opportunity to be keeper for these birds. I was aware that in the past experiences with these birds, other aviculturists had talked about how delicate they were. My early impressions in working with them were that in our mild San Diego climate and with the facilities available it would be no problem to raise these birds. They required only a little day-to-day maintenance, they were all healthy and vigorous, and my thought was that it would be only a matter of time until we were "knee deep" in Tahitians. Quickly my outlook was going to be tested.

Early in September of 1978 a pair was



Tahitian Blue Lory, Vini peruviana



obviously frequenting a particular nestbox and the one bird began staying in the nestbox all the time. The nestbox was examined on September 11 and it contained two small white eggs.

During the period of incubation the eggs were never left unattended for more than a few seconds. Both parents incubated throughout the day but the male's time in the nest was probably never as long as half an hour at any one time.

The changeover of incubating duties takes place either at the nest or out in the exhibit. Sometimes the free bird flys to the nest, calls, and either the mate leaves the nest or its mate enters to relieve the sitting bird. Or, the sitting bird leaves the nest and meets its mate who then returns to the eggs. The pair always spends a short time together before one returns to incubating the eggs. The eggs hatched on October 3rd and 4th but both chicks were dead by October 11. We were very disappointed, of course, with this failure but we were still very optimistic about the future. In attempting to propagate any species of bird the problems are grouped into two categories. The first is providing the birds with conditions suitable to allow them to feel comfortable enough to nest. The second category of problems that must be dealt with evolve around rearing the chicks that hatch. When working with birds that little is known about it's easy to pass off initial nesting failures by saying, "Well, perhaps they're a young pair and are inexperienced." It's just a euphanism for "I don't know what went wrong."

The same pair of birds was on eggs again starting November 27, 1978. Another pair began nesting on November 28. What good fortune, two pairs were nesting simultaneously. Surely the odds for success were more favorable now. Alas, failure again struck. December 1978 was very cool and rainy. On the night of December 19th the rain broke, the skies cleared, and temperatures plummeted. On morning of December 20th three birds were discovered to be suffering dangerously from the cold. Two birds couldn't fly well and were being persecuted by the others. One of the incubating birds was cold and so were its eggs since they weren't being incubated properly. These birds were removed to heated cages where they regained their vigor within minutes. The eggs were placed in incubator but there was little hope for their survival. On December 21 the second nest was abandoned because the bird was too cold. The single egg in this nest was cold but proved to be infertile. The four birds removed from the cage proved to be the four birds responsible for the two nests. Smaller cages where heat lamps could be used were

quickly prepared for these birds and each pair was caged separately.

Amazingly, on the morning of December 25th it was discovered that one of the eggs in the incubator had hatched and the other had pipped but died in the shell before hatching. The hatched chick was obviously very weak and died in my hands the second time I tried to feed it.

Optimism was replaced by frustration in the months from October 1978 to May of 1979. Three pairs of Tahitians, in three seperate cages, nested seven times, producing thirteen eggs that hatched eight chicks. As a matter of fact, three pairs were nesting simultaneously in the month of March 1979. Concerning the five eggs that didn't hatch, one disappeared during incubation and four were infertile.

We always prefer to leave chicks with their parents but at the first sign of problems they are removed for hand rearing. Unfortunately the attempts to hand rear involved chicks so young and tiny it's frightening even to pick them up, let alone feed them.

Obviously, the Tahitians were doing their part to propagate for us. Somehow we were failing them. The nestboxes that the Tahitians were using were 6" x 6" x 12" with an inside bottom dimension of 4" x 4". The birds were evacuating material in these boxes to the bottom before laying. When entering these boxes the birds would pause at the entrance with their heads inside to let their eyes adjust to the dark and then dropped to the bottom. Late in April of 1979 new nest boxes became available in an assortment of sizes and shapes.

On May 14th and 17th a pair laid their eggs in a nestbox that had its long dimension perpendicular to the wall and an entrance hole on the side. This meant the parents entered the box and walked to the end instead of dropping to the cramped bottom as before. On June 11th two chicks were discovered in the nestbox after one incubation of 25 to 27 days.

Immediately there was much concern for the chick's well being. The weather was setting record high temperatures for that time of the year. The nestbox was opened first thing each morning to examine the chicks and they looked fine. They were huddled together and were covered by a thin, whispy white down. Their skin was a pale flesh-tone. The parents obviously were feeding them because their crops were distended. However, when the chicks were examined in the afternoon they looked pitiful. The best way to described them is that they appeared melted. The whispy down was invisible having been matted by the moisture from high humidity in the nestbox. They were laying separately on their backs. Their skin looked almost

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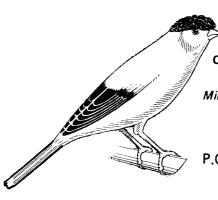
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transparent and the internal organs were visible through it. The chicks were completely motionless except for an occasional deep gasp for air, during which the entire body would heave. Pessimism willed out and I gave them no hope. After a few days surviving like this the weather cooled.

When the weather conditions eased, the hen began spending more time in the nestbox. She would always vacate the nest when I opened the cage door and since the adults didn't mind the intrusion the nest continued to be examined daily.

Usually when inspecting the nest the chicks were huddled together with their backs in view. One chick was slightly larger throughout development and this bird usually had its head and neck draped over the drooping neck of its nestmate.

On June 27th one chick raised its head when I opened the viewing port and it looked at me. I could see that its eyes were open. From experiences in hand rearing other lories I would estimate the chick started opening its eyes four or five days before. The body was covered by a very dense dark gray down and their beaks were black.

On the 28th of June only one chick was visible at first inspection. I probed the invisible portion of the nest with my finger

and the unseen chick moved into view. The parents weren't upset by this closer intrusion so I picked up a chick and examined it more closely. The chick down was obscuring the fact that the entire bird was extensively into pin feathers.

By July 9th pinning was obvious above the down and the feathers were erupting their sheaths along the wings. This was also the first day the chicks were audibly vocal and could be heard while I was standing outside the cage.

Inspection on July 12th showed that the pins were erupting their sheaths on wings, head, tail, and chest.

The chicks looked great on July 16th but the nest was becoming filthy. The chicks were backing towards the entrance of the nestbox to defecate and the wall and material at the opposite end of the nestbox was badly fouled and wet.

The chicks were all blue on July 18th except for a bare facial area. Three or four white pins were visible in a chester on each cheek of both babies. The larger chick had two or three pins on the chest also.

The first chick to fledge left the nest on August 7th and the second on the 8th — our first success with propagating Tahitians and the parents had done all the work.

Suddenly on the afternoon of August 10th the mother Tahitian savagely attacked the smaller chick which meant both chicks had to be removed. They were placed in an adjoining cage and provided with papaya pieces and adult lory mix. Both chicks were observed feeding from these by 3:30 P.M. They have continued to thrive on their own. Since females are slightly smaller than males it was possible the hen was close to nesting again and wouldn't tolerate competition from another female. Sure enough, this pair had two more eggs by August 27th.

Before the first chicks fledged another pair of Tahitians were on eggs. These birds hatched two chicks on August 16th and 18th after an incubation of twenty-three days. Again the nest box with the side entrance was used and the chicks are doing beautifully under their parents care.

Now I've regained my optimism about raising Tahitians but when I think back at all the chicks that were lost I'm filled with regret. The losses attributable to the vagaries of nature are to be taken in stride but to lose chicks because of a failure to provide something for all the birds needs are painful. The birds are doing their part to make us "Knee deep in Tahitians" and now I'm confident we are too •

