

This Issue

The *Watchbird* is geared toward articles and information that educate and entertain aviculturists. Just *what*, you ask, is an aviculturist? There are several opinions but I believe an aviculturist is one who keeps few or many birds with the expectation of somehow, someday, propagating them. This definition calls to mind *all* the various species of birds in zoos and private collections.

This issue features softbilled birds. See the fascinating mousebirds on page 10, Socorro Doves on page 15, and the Splendid Fairywren on page 20. Pages 29 and 30 present the Amethyst Starling and toucans.

Can *your* kingfishers excavate their own tunnels? Check out page 44. And who breeds honeycreepers in the living room? See page 46. If you're a little rusty regarding Yellow-breasted Hunting Cissas, go to page 50.


However, you don't have to be a softbill nut to enjoy this *Watchbird*. "Cockatoos are Lovers" (on page 54) says it all for the pet people (although the mousebird article may surprise you about which birds make good pets).

For the armchair travellers, Tony Bucci's adventures in Africa while looking for canaries will be a lot of fun. But you can also travel to California and visit the aviaries of Tani Smida, a breeder of various parrots.

The conservationists (and I believe that should include us all) should see Jordan on CITES and the notice from the American Bird Conservancy/World Parrot Trust. We can't really keep aviculture alive without considering conservation and legislation.

Other topics include aviary design, iron storage disease in softbills, lead and zinc toxicity, the Cuban Amazon Parrot, changes at the Riverbanks Zoo and Garden, the Painted Button Quail (not the bird you generally think of), the Wrinkled Hornbill, handfeeding finches — a delicate job, no doubt, and all about the last AFA convention (well...almost all). Enjoy.

The next issue will feature "bread & butter birds" — how to make seed money with certain birds.

Sheldon Dingle, Editor 

New Bird Collection at the Riverbanks Zoo and Garden

by Martin Vince, Assistant Bird Curator,
Riverbanks Zoo & Gardens, Columbia, SC

In May 1999, the splendid, but out-dated, Bird House at Riverbanks Zoo and Garden was demolished. This event was long-awaited since the building had suffered for many years from leaking roofs and other serious effects of old age that were beyond repair. Two months earlier, a new off-exhibit facility named "The Bird Conservation Center" was opened. Here the bulk of the bird collection would be housed until the new bird house could be built and opened in the latter half of 2000. This article is an account of the (soft-bill) breedings that have already occurred in the Bird Conservation Center (BCC) including possible contributing factors such as aviary design.

The BCC comprises 28 indoor aviaries and seven outdoor aviaries which are all off-exhibit. There is also a Kitchen, an Avian Nursery and a Research room that are on public display via large viewing windows.

The Indoor Aviaries

The 28 indoor aviaries are built of 1-inch square aluminum tubing and 2 x 1/2 inch 16g wire mesh. All of the aviaries are three feet wide and eight feet high; 15 aviaries are 15 feet long; 13 aviaries are 10 feet long. The aviary dividers are removable so that wider aviaries can be made if necessary (in multiples of three feet).

The top four feet of the sides and backs are solid, white fiberglass. This is easy to clean and gives complete privacy to each aviary's occupants. The

aviaries are serviced from the front — a feed door allows food and water dishes to be placed on raised wire mesh platforms, while a 2 x 5 foot door allows easy access for people if required. All of the aviaries stand on concrete curbs above a smooth con-

Photo by Martin Vince



A six-week-old Toco Toucan on the day of fledging.

Breeding Season, 1999

For the breeding season of 1999, we resigned ourselves to little or no breeding for the following reasons:

1. the birds had to be moved in April which we expected could disrupt breeding.
2. the majority of the birds were temporarily over-crowded.
3. many of the larger birds had to be housed singly because the aviaries were designed for pairs of smaller birds.

At the time of writing (May '99), two Toco Toucans, three Keel-billed Toucans and one Pink-necked Fruit Dove have hatched in the BCC and are being parent-reared. The birds have been in the new building for just two months. The toucans are in the outdoor aviaries which were carefully designed for them, while the fruit dove hatched in an indoor aviary, three feet wide and ten feet long. Also housed with the fruit doves are a pair of Fairy Bluebirds. The Fairy Bluebirds are only temporary companions until there is sufficient space to give each pair their own aviary.

The fruit doves nested on a hanging basket of pathos vine at the rear of the aviary. Hanging baskets can provide both cover and nest sites for fruit doves, tanagers, leafbirds, thrushes, Pekin Robins, and generally can be offered to all builders of small cup / platform nests. Watering them, however, is practically impossible without destroying the nests and eggs that might be located on them. A simple irrigation system is therefore useful,

allowing remote irrigation that does not disrupt nesting: a 3/4 inch tube can run along the aviary roof. Lengths of 1/4 inch tubing can be connected to the main line, using "T" pieces, and discharged into the tray or earth of each basket. Liquid feeds can also be administered this way, avoiding the need to service the plant directly and risk disturbing the birds.

The Outdoor Aviaries

The pair of Keel-billed and pair of Toco Toucans that are currently breeding are the sole occupants of their own aviaries. And although we hoped that they would breed this year, we are surprised at the speed with which they have gone to nest. Indeed, they began nesting in April, which is typically the start of the toucan breeding season in South Carolina. We are hopeful that each pair will have time to recycle and produced a second clutch this year.

Three of the seven outdoor, off-exhibit aviaries are designed for large (*Ramphastos*) toucans and are patterned after the previously successful ones in the old Bird House. One of the toucan aviaries is temporarily housing Rhinoceros Hornbills, while the other four, smaller, outdoor aviaries house pairs of parrots.

The toucan aviaries are 30 feet long x 10 feet wide. We intended them to be 10 feet high, but there was frankly an error in the design process, and they were built eight feet high. This lead us to the concern that the entrances to the nest logs were too low, and I for one was very uncertain as to whether they would be acceptable to the birds.

crete floor which slopes from the back of the aviaries to the front. A walkway allows us to walk behind the aviaries and hose debris into a large gutter drain at the front. Because the top half of the aviaries are solid, the birds cannot see us when we are cleaning and are actually not unduly disturbed. The aviaries were built by Corners Limited, and are excellent.

Lighting is both natural and artificial. Windows in the walls of the building provide natural side-lighting, and a series of windows in the roof provide lighting from above. Florescent lights provide a lumen range of about 60 to 100 foot-candles inside each aviary. We believe that this is sufficient for plant-life and bird-life. It may be worth noting that we decided to avoid the expensive, full-spectrum lights that simulate sunlight. It appears to be the case that such lights are not necessary for birds or plants. Of primary importance seems to be merely the existence of bright, white light. The exact wavelengths are probably not important, provided that the birds' diet is nutritious, specifically being balanced for vitamin D3 (an essential vitamin that in nature is derived from direct sunlight). We use Nekton MSA in our diets, a multi-mineral supplement that contains D3, as well as being balanced for calcium and phosphorus.

No floor covering is used except in aviaries that house ground birds. In those cases, we use Enkamat™, a plastic matting originally designed for erosion control. The building is climate controlled at about 75 degrees Fahrenheit.

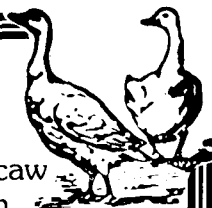
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** indicates 2 year term has been fulfilled. If no new interested party comes forward and indicates a desire to serve, incumbent remains in position.

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We usually hang a toucan nest log about 12 inches below the aviary roof to allow one or both birds to stand on top of it, something they seem to do when tentatively investigating the log. One bird might be on the roof while the other might be looking in the entrance hole. When we build the nest log, the entrance hole tends to be about 12 inches below the top of the log so as not to weaken the log. Hence, in an aviary eight feet high, the entrance to the nest will be only about six feet above the ground. After we had mounted the Keel-bills log, the entrance hole was even lower at only about five feet above the ground; the birds had to actually descend from their perch to reach it.

The positioning of the nest logs so near to the ground was disappointing. I wondered whether we would have to re-hang them and somehow remodel the logs to raise the entrance holes. But two days after the birds were introduced to their aviaries (March 22nd, 1999), both the Keel-bills and Tocos started looking in their nest logs. In mid-May, both pairs hatched chicks.

The dimensions of an aviary are important, but equally important are the supporting structures that provide privacy and shelter from the elements. The sides of the toucan aviaries are a solid brick wall painted white. The top half of the back of each toucan aviary is solid (white fiberglass). A small roof at each end of the aviary provides shelter and shade. Under one roof is a heat box and a nest log, under the other roof is the food and water. The birds are able to spend much of the day sunbathing. This is probably an important part of bringing large (*Ramphastos*) toucans into breeding condition, as well as the other elements of being outdoors such as fresh air and rain.

Amazing Personality Change

The breeding pair of Keel-billed Toucans were previously housed in the old Bird House, on-exhibit, in an outdoor aviary nearly 14 feet high, 21 feet long and 10 feet deep. The aviary was dense with trees, mainly privet. Three of the four walls were solid, with one 21-foot side of the aviary open to public viewing. Although the

Keel-bills bred prolifically in that aviary, they were always very nervous when anyone entered, or even cracked open the door to look inside. They were so nervous, in fact, that it was impossible to photograph them — they would not stand still for more than a few seconds, and getting near them was impossible.

In their new aviary, the same birds are completely different. You can approach them within a few feet, hose around and under them, and hose around the nest log. The brooding bird stays in the log, not even bothering to look out. Flights are very leisurely and controlled. Why are the birds so at home? Most of the differences between the old and new aviaries seem to be undesirable. For example: the new aviary is nearly six feet lower, it has only two five-foot high bushes, and provides no place where the birds can completely hide.

One major difference is that the aviary has no open sides, as the exhibit aviary did. The long sides of the new aviaries are brick walls. One end is half solid. The keeper end of the aviaries is wire mesh, but gives way to a closed-in brick service hallway. None of the aviary's sides is completely open. Of course this is perfect for an off-exhibit aviary, but most of our aviaries are on-exhibit and will be viewed by our visitors. So how do we reconcile the needs of the birds (especially nervous ones), with the exhibit requirements of our institution? Plants are the key and are being used extensively in aviaries currently under construction.

In July, '99 we will be opening 14 new aviaries for toucans, parrots, and raptors. Most of these aviaries are clad in ZooMesh, a fine stainless steel wire which is almost invisible when painted black. To provide the seclusion necessary for avian health, the aviaries have been planted inside and outside, surrounding the birds in a beautiful array of foliage. At the same time, our visitors are able to clearly see and enjoy the birds. These new aviaries place a large segment of the bird collection back on exhibit after a brief period in holding. And the opening of the Bird Pavilion next year will mark the completion of the rebuilding of the entire bird collection. 