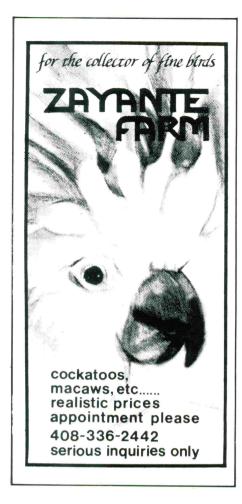


Tautly stretched piano wire minimizes the disruption of the line of sight in large outdoor flights used for raptors.



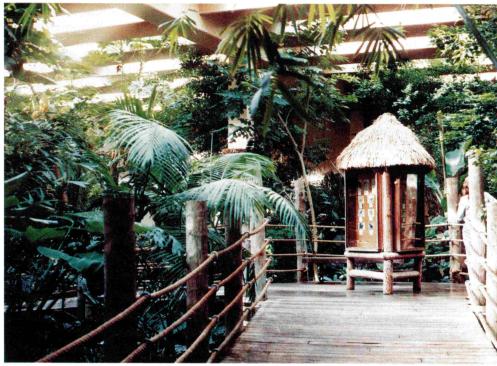


Rainforest in the Desert

By Clifford Brane Belen, New Mexico

Just like the city itself, Albuquerque's Rio Grande Zoo has come a long way. Albuquerque has expanded from its days as a small settlement along the banks of the Rio Grande River to a present day population in excess of 340,000. The city's Zoological Park has moved from

humble beginnings to modern day concepts of wild animal display. This includes housing animals in areas that mimic natural habitats, and a captive breeding program that involves a variety of species, some of which are endangered.



An influx of funds from city bond issues has allowed the zoo to take on major construction projects in the last few years. One of those projects was the Rainforest and the adjoining Reptile House, which were built at a combined cost of 1.3 million dollars. The Rainforest is a 9,000 square foot building, which along with an outdoor waterfowl and flamingo display, and a large naturally landscaped series of flights housing raptors, is the home of the bulk of the zoo's bird collection.

The Rainforest is of poured-concrete construction that's treated on the outside with a stucco that gives it an adobe appearance. Inside the cement is painted and plain. Its plainness is in sharp contrast to its colorful inhabitants, both plant and animal. Numerous skylights brighten the building, and double doors insulate the inside from the vagaries of weather and give protection from escapes.

The Rainforest building gives the public walk-through access to a mixed avian collection of hardbills, softbills and some smaller types of waterfowl. A wood-slatted walkway that has been raised above the dirt floor and the addition of rope handrails assure that the bird collection, which flies freely throughout the building, has some measure of protection from encroachment by its human visitors.

On a recent Saturday morning John Mallen, the Curator of Birds, gave my wife and me a walking tour of the areas he supervises. John limits the population of the Forest to maximize the visitor's feeling that he or she is really in a natural environment. This same practice also helps to minimize the population pressures among the bird species. Even so, John told us, occasional problems do crop up among the birds. Grey headed gallinules had to be removed from the Forest because of their antisocial behavior toward a pair of nesting scarlet headed blackbirds. John's protection of the blackbirds is particularly understandable because the Rio Grande Zoo and the Philadelphia Zoo are the only U.S. parks to have so far hosted successful nestings of the birds. Of the two young scarlets the Rio Grande Zoo's pair hatched, one died and the other, raised by hand, is now a member of the Rainforest population.

Despite some minor problems, John has seen both larger and smaller birds breed or attempt to breed in the facility. The relatively rare radjah shelduck from the Molucca Islands has successfully nested, and the author was shown a nest being carefully constructed from Spanish moss by a pair of orange cheeked wax-



bills.

John told us the smaller birds seem very ready to nest when they discover a place out of the reach of larger birds. The orange cheeks were building between some large chips of redwood held with fence wire against the Forest's cement supporting pillars. The chips were evidently to create a more natural look than the sight of a plain cement pillar. The waxbills found the chips functional for nesting purposes.

The waxbill type of nesting experience is more the rule than the exception at the zoo. Despite all kinds of nest boxes and woven baskets, the birds often find their own favorite spots. A female Victoria crowned pigeon was seen nesting in a tree on a haphazard looking nest with a metal screen beneath. The general policy of the keepers is to place the screening in the trees where the pigeons are observed making attempts to build. John said this helps prevent the eggs from falling through the bottom of the often flimsily constructed nests.

The Rainforest was built in line with present day zoological park thinking, creating an atmosphere for viewing the captives that gives the visitor some hint of what the animal would look like in the wild. This same concept has had the side

benefit of increasing the frequency of successful breedings. The Rainforest at the Rio Grande Zoo has encouraged fruitful nestings of superb starlings, Bali mynas, Victoria crowned pigeons, mandarin ducks, ring teal, scarlet headed blackbirds, laced neck doves, barred doves, grey headed gallinules and crested green wood partridges.

Feeding areas in the Rainforest are along a wall farthest from the cordoned walkways to cut down on disturbance of the birds while they are feeding. Food is spread as much as possible within this limited area to discourage bullying by the larger birds. The Forest's mixed bird collection gets exposure to a wide choice of foods-fruits, nectar mix, seed and live food including both mealworms and crickets. The Zoo freezes its crickets for ease in handling and feeding. Some additional stray insects are no doubt available to the birds from among the South American, Australian and African plants.

The Forest is enjoyable from a purely botanical standpoint. The lush foliage is the first visual image to strike the visitor upon entering the building, and its abundant, but controlled, growth gives zoo-goers a sense of discovery as they pick out bird types among the greenery.

To select compatible plants John Mallen consults with the Zoo's horticulturist, Greg Smith, who has a major voice in choosing the flora that will be on view in the building. The current choice is bromeliads, cycads, figs, banana trees and papayas among others.

The plants take a lot of fine tuning by Smith. After three years most of the plants have established themselves to the point that they are no longer threatened by the birds, but insect pest control remains a continuing concern. Once or twice a year Smith introduces predator insects into the Rainforest to help control the pests. These have included lacewings, ladybugs and the crptomaleus beetle. Greg Smith told us the predators never eradicate the pests to the last individual, so continual treatment on an annual or semiannual basis is necessary. The Zoo gets the helpful insects from a firm in California that raises them mainly for insect control in agriculture. Smith also said that the regular hose-down that the plants receive helps to keep destructive insects in check. Dead plant matter is regularly cleaned from the floor of the Rainforest to promote visibility of ground dwelling birds, and to cut down on areas that might harbor insects and disease.

Zoos everywhere have to be on the lookout for communicable disease among their animal collections. Such problems as salmonella can create chronic problems and situations like staph infections sometimes do in hospitals.

Another Forest related duty of horticulturist Smith is to supervise the trimming of the plants. Without attention to this detail, an actual forest-like canopy would develop near the skylights and the lower regions of the building would be devoid of leafy vegetation almost completely. Trimming is undertaken after consultation with Mallen to assure that nesting areas and nests that are in use are not disturbed. This particular type of work is done most often during the winter months, when visitor traffic is less heavy.

The most common way the Rio Grande Zoo has added to its bird collection is through trades with other zoos, in particular the San Diego and San Antonio Zoos. The source of the plant cuttings and large foliage has been much the same, with several plant types being shipped from the San Diego Wild Animal Park and the San Diego Zoo. The New Mexico Zoo's membership in the three year old "Association for Zoological Horticulture" has also helped in acquiring different plants.

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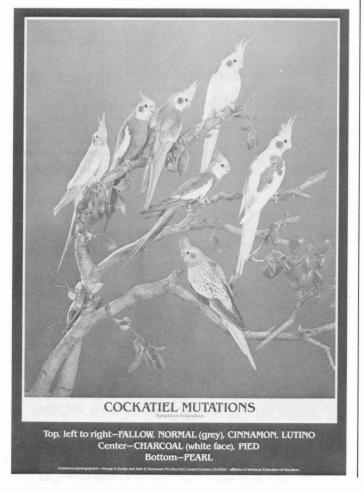
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Although none of the Rainforest birds have been directly imported from Australia, the Park has been approved by the Australian Consulate since 1981 to receive direct imports. In that manner the Zoo has acquired several pair of greater sulphur crested cockatoos and Leadbeaters. Those accustomed to seeing the normal captive greater sulphur in America would be used to a generally smaller bird than those at the Rio Grande Zoo. Mallen said that the Australian birds are larger than those from New Guinea and Indonesia which are more often seen in the States. As an interesting aside, the three pair of greater sulphurs we saw needed no coaxing other than the proximity of humans to say, "Hello." The birds were tame on arrival from the Sidney Zoo and had probably been donations to that facility by persons who had grown tired of their noisy pets. These showiest members of the Albuquerque park's collection are destined for a breeding program and are not currently on view to the general public.

The build-up of the bird collection followed the construction three years ago of the Rainforest, so the Zoo has had less than ample time to begin an endangered species breeding program; but work in that direction has now started. The Bali mynah and the radjah shelduck have been breeding successes. The Zoo also has designs on breeding its Darwin's rheas, but they are not yet of age. The most rare of the collection is the pink pigeon. The Zoo has two, and the few other remaining individuals are at the Jersey Wildlife Preservation Trust on the isle of Jersey off the coast of England; in the birds' native Mauritius Islands off Madagascar; and four pair on breeding loan from Mauritius to the New York Zoological Society.

The pair at the Rio Grande Zoo has not bred in their three year residence, and the bird curator speculates that their incompatibility may be due to one being a wild-caught bird and the other captive raised. Through continuing contacts with the Zoo's first Curator of Birds, Faye Steel who is now in Mauritius, the Park will be receiving four different pair in a further effort to breed them.

Through a nationwide period of tight budgets, Albuquerque's Zoo has amassed enough expertise, volunteer muscle and money to expand. The day my wife and I visited, the Zoo was dedicating a new wolf exhibit to house a pair of Mexican wolves of which there are thought to be only thirty in the wild, but a fair share of the expansion money has gone to acquire stock and build housing for various native and exotic bird species.

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