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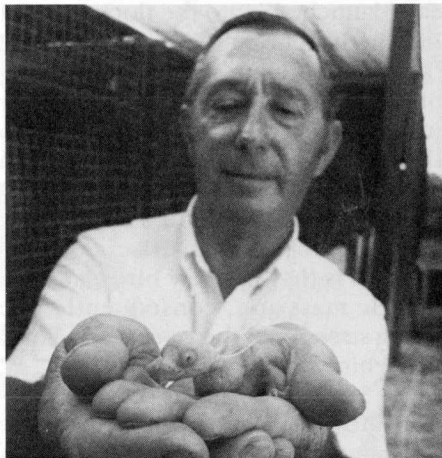
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## Uncommon Patience a Key to Busch Gardens' Bird Breeding Success



*In good bands — a just-batched Indian ring-necked parakeet easily fits into the palm of Ed Bish.*

Photo courtesy of Busch Gardens, Tampa, Florida

next year, they'll be extinct.

"Birds are delicate and highly sensitive creatures," added Bish, who has managed the Bird Gardens collection since the park opened in 1959 and who also breeds birds at home. "Some breed all year round and then not for years."

Both Bish and Wells agree that painstaking observation is needed if the variables for successful breeding are to be isolated. Of these variables, determining the birds' sex has traditionally posed problems. Unlike most other animals, birds have internal sex organs, and even external coloring and markings won't always differentiate males from females.

To solve this problem, the park's veterinarian employed a simple surgical procedure to distinguish the boys from the girls. Now when mated pairs don't produce eggs, the curators are at least relieved to know it's not because the birds are of the same sex.

Perhaps the single most important factor for breeding success is diet. Of the 500 pounds of food consumed by Bish's birds each week, 100 pounds is the park's own mix, the rest a new product fed to those birds who seem to respond favorably to it. "We are always looking for a better diet," said Bish.

A measure of "bird psychology" is also necessary in addressing most breeding issues. The South American crested tinamou lays a green egg. At Busch Gardens, the tinamou's eggs were being raided by a toco toucan, a fruit-eating bird with the occasional yen for meat.

Wells and his crafty staff painted several rocks the same green color as the tinamou's eggs and placed them around the real thing. The result so confused the raiding toucan as to curtail its destructive feeding habit.

The curator's bird breeding histories are replete with stories of innovative solutions to perplexing problems. However, they both agree that compatibility is about as key an issue as any.

"All the help in the world won't solve the problems created by a poorly matched pair. When it comes to breeding, it's a waiting game. We do our part and hope the birds do theirs," said Bish, adding that the pair bond is very strong among birds and is the product of good mating psychology and a little luck.

With their special brand of patience, Busch Gardens' bird curators await every new hatching and the ray of hope it brings for each species. ●

Tampa, Fla., June 10, 1987 — Bird breeding is not for the impatient or easily discouraged. When just one poorly timed peek into a nest box can result in the trampling of eggs or subsequent years of unproductivity, the notion of "walking softly" takes on new meaning.

With the special talents of bird curators Ed Bish and Mike Wells, Tampa's Busch Gardens has enjoyed a successful and ambitious bird breeding program despite the inherent pitfalls. Bish is in charge of the "psittacine" collection (parrots and macaws) while Wells oversees non-psittacines such as flamingos and waterfowl.

With 249 species and a total inventory of about 2,000 birds, Bish and Wells have their work cut out for them.

To date, Busch Gardens has bred 11 of its 13 varieties of macaw and more than a half dozen species of cockatoo. The flamingo flock has grown from 55 to 261. Overall, about 7,000 birds have hatched at Busch Gardens since it opened in 1959, with more than 170 psittacine births in 1987 alone.

Major achievements include the first captive U.S. hatchings of the Patagonian conure, the festive amazon and the marabou stork, and the first captive hatching in the world of a rare, highly endangered Lear's macaw.

The curators emphasize that Busch Gardens' dedication to wildlife conservation underlies all breeding efforts. For many species, captive breeding programs like the ones at Busch Gardens are the birds' last hope for survival. "There are only a few Lear's macaws left in the wild," Bish said. "If something isn't done in the