

A "Beak Job" is not Just for Looks

by Sherry Rind
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Living in a quiet corner of Woodland Park Zoo's African Savanna, Regret Egret and Houdini were often the subject of questions and discussion among zoo-goers. Could these really be cattle egrets? Was there something wrong with them or were their upper beaks supposed to look broken off? After all, animal life can take many strange forms and these birds did not behave as if there were anything wrong with them. And zoos do not exhibit disabled creatures, do they?

Indeed they do. In November, 1982 two cattle egrets with broken beaks arrived on breeding loan from Brookfield Zoo. How the injuries occurred is a mystery. One bird's beak was broken just below the nostrils, leaving three

stubby prongs. The other bird's beak was broken off at the tip so that the remaining portion was slightly split and upturned. This latter bird, who was named Houdini because of his tendency to fly out of the exhibit, could eat and preen fairly well. The first bird, however, could not pick up food from the ground and could not preen. Regret Egret, so named for his regrettable problem, was specially fed. Keepers put bits of commercial feline diet on top of a scrub brush or tossed them onto tall grass so that Regret could scoop up the pieces with his lower bill. Eating was a slow process. Unlike Houdini, he could not pick up mealworms and crickets. He got just enough to eat and would certainly not grow plump. Both birds were also given "insect supplement" and vitamins.

Cattle egrets, *Bulbulcus ibis*, have the long legs and hunched look of all members of the heron family. They are white and carry a head plume of long, single feathers of a reddish brown color. Thicker set than other herons, they look a little wild-eyed and grumpy because of the plume. The egrets feed on insects and larvae disturbed by

cattle and other grazing animals, walking fearlessly among the hooves or perching on backs. Sometimes they even follow man's plows and hunt for insects in the newly turned dirt.

The cattle egret is that rare animal: a success story. Because of its relationship with domestic cattle, it thrives on the worldwide spread of agriculture, unlike most birds. Originally found only in the hottest regions of Africa and Asia, cattle egrets were spotted in South America's British Guiana in 1930. They spread south and as far north as Canada. They began to settle in Australia in 1948 and moved on to New Zealand. In Europe they can be found in south Spain and Portugal but they stay away from Central Europe where it is thought that they would not be able to find enough to eat during the cold winters. These birds demonstrate how a certain amount of adaptability will ensure survival. Perhaps it was due to this adaptability that Regret lived as long as he did.

Being unable to preen, Regret was not the tidiest looking bird. Zoo keepers did what they could for him, keeping him and Houdini in an exhibit away from the other egrets and bring-

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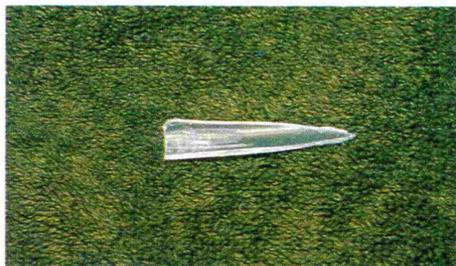
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Regret's upper bill was so short that it was amazing he could eat at all.



This is the beak Dr. Karesh fashioned from a syringe case.

The beak is a perfect—if not exactly beautiful—fit. Somewhat tame, Regret sits in a keeper's hands for his photograph.



ing them indoors for the colder part of the winter. Despite the special care, Regret started looking worse this past winter. A little extra bedraggled by the rain, he sometimes became the target of Houdini's aggression. He was still thin. If he did not build up some reserves, his health and even his life might be endangered. What to do? Well, people who lose their teeth get false teeth to enable them to eat normally. So Regret Egret would get a false beak.

Dr. William Karesh, a zoo vet, began looking around for an object of the right shape and size, something that was lightweight and durable but also flexible enough to absorb the shock waves caused by pecking movements. He hit on the idea of using a plastic syringe case, cut in half and reshaped. He first applied the false beak with hoof acrylic, but what sticks on horses does not necessarily stick on birds. Back to the drawing board.

The next try with a superglue type substance was more successful. With an assistant holding Regret, Dr. Karesh first sanded the broken prongs of the bill to create a rough surface for better bonding. The sanding is irritating to the bird, so he had to be careful not to overdo it. After brushing some glue on the prongs of the real beak and on the prosthetic beak, he fit them together. While the glue dried, taking only seconds, he opened the bird's bill in order to make sure that the beak pieces were the only things that got stuck together.

Set back on the ground, Regret

shook his head and ruffled his feathers the way any bird does after being restrained and let loose. He gave a few sneezes and immediately began to preen as if he had been wearing a plastic beak all his life. When Dr. Karesh put a cricket into the cage, Regret showed no hesitation in going after it and snapping it up right off the concrete floor. Mealworms received the same treatment.

No one knew how long the beak would stay on but as time went by, zoo personnel felt the warmth of success. For six weeks they felt it. But one day there was the syringe case on the floor and the egret waiting to be fed by the scrub brush method. The beak had sloughed off some cells at its tip and the prosthesis beak along with them.

As readers probably know, beaks are made out of a keratin. All beaks grow continuously and broken parts can grow back unless, as was the case with these egrets, too much of the germinal tissue is damaged for the beak to regenerate. The bill continues to slough off at the broken end but it never gets longer.

Dr. Karesh initiated the whole glueing procedure all over again but for some reason the beak did not want to stay on for more than a few days at a time. Being indoors for the winter, the bird was easy to catch. Replacing the beak every few days to a week took only a minute and Regret ate without hesitation immediately afterward, showing no sign of lingering stress. It is interesting that Regret never attempted to preen or peck when not wearing his prosthetic beak.

There is not a great amount of scientific documentation available for such restorative work because so little of it has been done. A particular technique must be practiced on a great many cases, such as the California pelicans whose beaks were mutilated a few years ago, before the results can be written up in scientific journals. The solution, then, is still in an experimental stage.

The attempts to perfect a beak for Regret came to a halt with his death in mid-February, 1985. Regret had simply worn out. Having been thin and unable to eat well for years previously, he had no reserves of stamina to withstand the stress, however minimal, of repeated, brief handling.

As a zoo keeper said, it is regrettable to lose Regret Egret but both his life and death contributed to our knowledge of birds and beaks and how to put the two of them together. ●

Photos by Dr. William Karesh