


guard he was just clearing off some of the weeds. Gary was called off the hillside, and the security guard told him he could keep what he had already picked, but if he caught him up there again he would be thrown out. With that little tiny bag of weeds, Gary has now grown a whole garden of those grasses for his birds. (I figured he was crazy like me when it came to birds, so we married). When Gary drives places, and he spots just the right grasses that he could feed his birds, he will stop and dig some up (for he carries a "trusty" camping shovel with him at all times), and home he will come to plant it in his garden. He really puts his all into growing all the right foods. As for handfeeding, because I am up almost all night handfeeding lots of baby parrots on those "hourly" feeding, I do the midnight and wee morning feedings for Gary, so someone around here can get some sleep and have their mind together! Thank goodness, we both love the birds as well as all the work that goes with them!!!

Robbie 

# DNA STORAGE PROJECT

James B. Taylor M.A.Sc. PEng.

As serious aviculturists we have expressed interest in preserving endangered avian species by the captive breeding and reintroduction of the offspring back to the wild. At the present time there are few opportunities to do this because of continuing environmental destruction and continued loss of habitat. The Avian Preservation Foundation of Canada has investigated a program that would allow aviculturists to take the first step in preserving many of these endangered species. We are negotiating a contract with the biotechnology company, HealthGene Inc., to collect and store genetic material from these endangered species with the aim of reconstructing these species in the future. At the present time it is possible but not feasible to reconstruct a species from it's DNA. Recent advances in molecular genetics indicate that this will be feasible in the foreseeable future if the DNA is available. If this stored DNA is from a diverse enough gene pool, a viable population of a species could be reconstructed for reintroduction.

We need to act now to save genetic material from as many individuals of these species before so many have disappeared that it would limit the genetic diversity required for a viable population. We would expect to have to store this DNA for ten to twenty years to allow the technology to be developed to make this reconstruction feasible.

What we propose is that holders of endangered species collect either a blood sample or 5-6 chest feathers from as many individuals as possible from their collections and submit these samples to HealthGene for storage. As there are costs involved with sample preparation and storage, we ask that \$20 US/sample be included with each sample. HealthGene will be offering

quantity discounts to encourage submission of as many samples as possible. This money will cover storage charges for the first ten years. The Avian Preservation Foundation will generate the funds to cover costs beyond this time.

## What species should be considered?

There are many species that are obvious candidates for this program: Spix Macaws, Echo Parakeets, Bali Mynahs, Caribbean Amazons, etc. All of the CITES Appendix I species should be stored. Many other species could easily become just as endangered. We don't know. No one could have predicted the demise of the Carolina parakeet or the Passenger pigeon. We will leave it up to aviculture to decide which species should be stored. Most are obvious and will depend on how much aviculture is willing to spend on preservation. We would hope that holders of CITES Appendix I species would be the first to join this program but conditions can change very quickly. It would be foolish to think that just because a species is common today that it could not become endangered tomorrow. Many species that were once common in aviculture have disappeared before anyone realized. If this were to happen then there might not be enough individuals left in captivity to reconstruct the species if it should become endangered in the wild.

## How many samples are necessary?

The obvious answer is the more samples from as diverse a population as possible should be saved. I would think that you would want to save samples from a pair but not their offspring. As to other individuals, there is very little information available for most species on the

## Convention 2001 Super Raffle Winners


Item	Donor	Winner
Blue and gold Macaw	Benny & Nancy Gallaway	Alice Boe, CA
Brooder	Pippin's Roost	Cathy Ford, CA
African Grey	Troy Hensley	Diana Mahony, TX
Brooder	Joe & Carla Freed	Fran Smith, CA
Cockatoo	Hill Country Aviaries	Allison Mitchell, CA
Amazon Cage	Animal Environments	Ellen Krieger, NJ
Ringnecks	Michael & Jackie Gollotte	Tony Candelaria, CA
Puri Fan	Joe and Carla Freed	Parrot Chest, OK
Macaw Cage	Animal Environments	Mark Moore, TX

inter-relatedness of the individuals in captivity. As a result, the more samples saved the greater the chance of reconstructing a viable population. When the technology is available, the DNA for each sample of a species would be sequenced and the range of variation within the species determined. In this way the largest variation for each species would be used resulting in the healthiest group of individuals for the reconstructed population.

### Who would own the DNA samples?

The samples would remain with the Avian Preservation Foundation of Canada until both the technology is available and the need arises to process the samples. Until the technology is available, these samples have no commercial value. At the time when reconstruction is possible and necessary, the DNA will be used to rebuild a population of the near or totally extinct species represented. The process will likely be expensive and the Avian Preservation Foundation of Canada will be responsible for generating the necessary funds for the project. We have no way of knowing what conditions will exist in 20-30 years in the future (or however long it will take), but we do know that extinction is very permanent. Without the stored DNA, extinction of these species could be the final result.

This program is a pilot project and we hope that organizations with interests in other families of creatures, such as mammals, reptiles, etc. will undertake similar programs. Whatever we learn from this project will be made available to any groups interested in duplicating this process.

We hope that we are not too late for many of the endangered bird species. We are too late for those now extinct. For a very small price you can help to ensure that the species that you love will exist for future generations to enjoy, as you now are able to. You have a chance to really make a difference. 

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### California

Eduardo Acosta, DVM  
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Robert Stonebreaker, DVM • 619-755-9351  
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### Massachusetts

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Minneapolis

### Missouri

David Kersting, DVM • 314-469-6661  
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### North Carolina

Lauren Powers, DVM • 919-918-4000  
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Dean J. Cerf, DVM • 201-447-6000  
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### New York

J.C. Adsit, DVM • 518-463-0600  
Albany

Heidi Hoeffler, DVM • 631-271-2359  
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Frank Scandaglia, DVM • 718-370-9472  
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Laura L. Wade, DVM • 716-832-2800  
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### Nevada

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### Ohio

Ram Mohan, DVM • 614-755-2273  
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### Pennsylvania

Edward Bennett, DVM • 724-444-6600  
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Linda Stern, DVM • 717-730-3755  
Avian & Feline Hospital, Camp Hill

### Puerto Rico

Hector Perez, DVM • 787-816-3467  
Arecibo

### Tennessee

Shanon B. McGee, DVM • 901-853-8519  
Collierville Animal Clinic, Collierville

### Texas

S.A. Fronefield, DVM • 713-495-9445  
ABC Animal & Bird Clinic, Houston

Sharmen Hoppes • 281-859-6648  
Copperfield Animal Clinic, Houston

Karen Lass, DVM • 972-985-0081  
Preston Park Animal Hospital, Dallas

Jan Raines, DVM • 214-221-4394  
Dallas

Agnes E. Rupley, DVM • 409-696-4411  
All Pets Medical Center, College Station

### Virginia

Rose Fiskett, VMD, dipl. abvp,  
703-425-PETS  
specialty avian practice  
Potomac Valley Veterinary Hospital  
Fairfax