



Crinifer piscator, or western gray plaitain eater.



Sierra Leone touraco.



Bare-faced go away bird.



Guinea touraco.



White-bellied go away birds showing sexual dimorphism. The male has the greenish beak while the female's is black.



Fischer's touraco.

Touracos: Captive Status

by Rochelle Plassé, Supervisor, Birds
Houston Zoo, Houston, Texas

For the past ten years, as supervisor of the Houston Zoo bird section, I have had the opportunity of working with a remarkable group of birds — touracos.

Touracos are a distinctive taxon of softbilled birds which range over portions of Africa, south of the Sahara.

The Houston Zoo's breeding program for touracos began in 1973 under the direction of former curator Robert J. Berry. Over the last 15 years the program has expanded due to the team efforts of former supervisor Trey Todd, myself, and an outstanding flock of zookeepers. The program is ongoing and continues with present curator Larry Shelton. The zoo currently holds 80 touracos, representing 16 species and sub-species. Twenty-four are youngsters raised since February of this year.

Since 1973 nearly 300 specimens, representing 12 species and sub-species, have been bred in Houston. During this period a great deal of experience and information on touracos has been amassed. Through communications between other zoos and private breeders interested in touracos, we could easily see trends developing with regard to the captive status of these species; once commonly bred species were decreasing, numerical over-representation of others were apparent and genetic diversity in the captive population was becoming significantly reduced.

When the suggestion of a touraco studbook arose, these trends in the captive population could not be substantiated based on actual data and no real determination could be made on which species were in greater need of management. Obviously, much more information was required and with this in mind I was given permission by the zoo director to initiate a touraco survey questionnaire on specimens in U.S. collections.

The survey was sent to 150 facilities;

institutions and private breeders. These were mostly in the U.S., however a few European zoos known to keep touracos in their collections were also contacted.

The questions the survey asked were basic: which species do you keep? numbers, sexes, wild or captive raised, breeding activity recorded, survival rates, ages, and methods of housing. Respondents were also encouraged to jot down any historical or problematical data which might prove useful.

One hundred eleven replies were received, roughly a 74% response.

Of the 65 north American facilities which reported keeping touracos, only 25 were currently producing young. Eighty-three percent of these 25 were involved in breeding only red crested touracos (*Tauraco erythrolophus*) and white cheeked (*Tauraco leucotis*). Only five facilities reported successfully raising other touraco species.

These data are rather deplorable considering U.S. zoos have been exhibiting touracos since 1914. Both the National Zoo and the Philadelphia Zoo reported numerous touracos coming through their facilities since that time; many in the 1950s. Although the first world breeding in captivity took place in a private collection in 1904, the majority of successful breedings have occurred since 1970. This is a considerable amount of time to get our avicultural act together, even though the emphasis on breeding birds, particularly in zoos, did not hit home until the bird embargo of 1972.

Returns indicated that 477 touraco specimens are currently living in surveyed U.S. collections. That certainly sounds like a lot of birds. And it is, until you begin breaking the figures down into species. This is particularly significant with regard to genetic diversity. As in some species, genetic diversity is already severely limited.

Only 174 (36%) of the 477 speci-

Magnolia Bird Farm



Owner
Frank Miser

We Buy Birds We Ship Birds

COMPLETE BIRD SUPPLIES
(714) 527-3387

Open 9 to 6 Closed Sun., Mon., Holidays
8990 Cerritos Ave.
Anaheim, Ca. 92804

NEW CATALOG

Send \$1.00
discount available

your source for...

LAFEBER'S PRODUCTS

- PELLETED FOODS
- EMERALD I & II
- NUTRISTART, etc.

raise healthier birds...

more nutrition for your money...

AVI-CULTUR—1 BILLION™

concentrated Lactobacillus
acidophilus

- combat diarrhea & "pasted-up" vents
- combat the effects of stress from crowding, molting, drugs, etc.
- fight E. coli, Salmonella, etc!
- Just sprinkle on food.

MEDICAL SUPPLIES, ETC.

the bird specialists...



Wm. V. Reichert & Son • Dept W
1523 Potter Rd.
Park Ridge, IL 60068
312-825-BIRD



1988-1989 COMMITTEES

AVIAN RESEARCH

Dr. Susan Clubb (305) 226-6778

AVIAN TRANSPORTATION

Clifton Witt (301) 589-1262

AVY AWARDS

Dale Thompson (805) 252-3441

CALIFORNIA LIAISON

Laurella Desborough (415) 372-6174

CITES

Lee Phillips (301) 798-1353

CLUB PROMOTION

Chris Christman (714) 638-1596

CONSERVATION

Jack Clinton-Eitnrear (512) 828-5306

CONVENTION STEERING

Phyllis Martin (813) 839-4751

CONVENTION 1989

Opal Crosser (602) 853-0348

EDUCATION AND MEDIA SERVICES

Dr. Val Clear (317) 642-0795

ETHICS

Trudi Dam (813) 422-3772

FINANCE

Vicki Fletcher (206) 841-2705

LEGAL COUNSEL

Gary Lilienthal (617) 542-7070

LEGISLATION

Janet Lilienthal (617) 542-7070

MEMBERSHIP SERVICES

Joe McLaughlin (503) 538-6323

NOMINATING AND ELECTIONS

Kayla Snyder (215) 855-4463

PARLIAMENTARIAN

PUBLIC RELATIONS

Linda Rubin (617) 469-0557

PUBLICATIONS

Sheldon Dingle (714) 734-7448

RAFFLE

Dick Dickinson (408) 248-1641

SPEAKERS

Nancy Vigran (818) 980-4694

STATE COORDINATOR

Amy Worell, D.V.M. (818) 704-0223

VOLUNTEER COORDINATOR

Laurella Desborough (415) 372-6174

WAYS AND MEANS

A.B. McNabney (415) 945-1785

BUSINESS OFFICE

(213) 372-2988

WATCHBIRD STAFF

Sheldon Dingle/*Editor* (714) 734-7448

M. Jean Hessler/*Art Director*,

Production (714) 548-3133

Susan Dingle/*Assistant*

to Editor (714) 734-7448

Ted Harsey/*Advertising* (213) 395-8847

mens are wild caught. However, 22% of the wild caught birds are newly imported violaceous touracos (*Musophaga violacea*).

A summary of data on individual species follows:

Red crested touraco (*Tauraco erythrolophus*) — of the 110 red crests reported, only 15 are wild-caught (13%). While there are 16 facilities breeding red crests, only five are breeding from wild-caught birds. Two of these facilities (Houston included, which holds 25% of all wild-caught red crests) have limited or stopped production. These two facilities are aware of the numerical abundance of red crests in U.S. collections and are additionally concerned about the lack of genetic diversity due to excessive numbers of red crests originating from only one or two pairs of birds (over representation).

White cheeked touraco (*Tauraco leucotis*) — of the 63 white cheeks reported, only five birds are wild-caught, two are breeding in Houston (although production again is purposefully limited) and the other three are not breeding. Many of the white cheeks in the survey were listed as origin unknown. Obviously, further information on the origin of these specimens would be beneficial in the future genetic management of these birds.

Hartlaub's touraco (*Tauraco hartlaubi*) — of the 36 Hartlaub's reported, 18 are wild-caught but only three facilities are raising young. It is interesting that during the last ten to fifteen years Hartlaub's were the most numerous of all touracos in the U.S. Recent imports may boost these figures shortly. But, if sufficient interest and effort is not directed toward establishing them in breeding programs, this scenario could easily repeat itself.

Schalow's touraco (*Tauraco corythaix schalowi*) — of the 37 Schalow's reported, six birds are wild-caught. Four facilities are breeding Schalow's but, in a roundabout way, all the breeding females may be related to original Houston Zoo stock. The proliferation of Houston's stock dominating the existing captive population of Schalow's is an example of what happens when genetic management of a captive species is not monitored closely. A super-producing pair of birds can rapidly deplete the genetic diversity in a captive population.

Lady Ross's touraco (*Musophaga rossae*) — of the 38 Lady Ross's reported, 17 are wild-caught (45%).

Sounds pretty good? Not really, only three facilities are breeding this species and they are all, at least in part, related to each other. Thus, there are 14 wild-caught Lady Ross's out there doing nothing but looking pretty. Don't let me hear old age used as an excuse (theirs, not yours); Houston's breeding female is 22 years-plus and still producing. In fact, many of the active breeding pairs of touracos in the survey are in the 10 to 15 year old range.

Violaceous touraco (*Musophaga violacea*) — of the 58 specimens reported, 36 are wild-caught. This species was first imported only a few years ago and the first captive breeding occurred at the Brookfield Zoo in 1984. Although the survey reported only three facilities currently breeding violaceous, through personal communication I understand these numbers have increased.

The above data reports on six of the most numerous species in captivity. The populations of the following species are much lower and they share many common problems:

White crested touraco (*Tauraco leucolophus*) — of the 29 specimens reported, only seven are wild-caught and there are two facilities breeding this species. Birds in both facilities are related to each other.

Purple crested touraco (*Tauraco porphyreolophus*) — except for a few very recent imports, all purple crests in U.S. collections originate from shared Houston/Bush Garden stock. According to the survey, only Busch Gardens is now breeding this species. Houston's original breeding birds are showing signs of geriatric problems and have been removed from the breeding program. Houston's remaining birds are siblings. Some newly imported birds from Tanzania have surfaced. But, as of July 1988, Tanzania has closed the doors on exportation of purple crests and they are now on Appendix II, which makes future importation very doubtful.

Guinea touraco (*Tauraco corythaix persa*) and **Sierra Leone** (*Tauraco corythaix buffoni*) — population numbers reported for these two visually similar sub-species are very low. In the past, some facilities kept these species paired to each other (not recognizing the differences). Information is unavailable whether or not hybrids may be in the general population.

Grey go away bird (*Corythaixoides concolor*), **White bellied go away bird** (*Corythaixoides leuco-*



gaster), and **Bare faced go away bird** (*Corythaixoides personata leopoldi*) — these three species share a common dietary problem. Unlike other touraco species, they inhabit dry, savannah areas and primarily feed on the leaves, buds, and flowers of the acacia tree. In captivity, chick mortality for greys and white bellies has historically been very high, often due to the lack of green, leafy items provided in their diets (Houston uses Romaine lettuce, endive, spinach and collards). A pair of birds will often consume half a head of Romaine per day in addition to a normal touraco mixed-fruit diet. Houston has only been successful in raising white bellies during the time of year that honeysuckle could be provided to the parents in great quantities. Artificial substitutes for the nutritional value in these natural food items has not been accepted by the birds.

Bare faced have a similar but more severe dietary problem in captivity. This species was imported into the U.S. for the first time this year. Importers reported very high mortalities during quarantine, despite great efforts by some to provide them with an enormous variety of food items.

Houston received two un-sexed birds in February. They did well during our 30-day quarantine, and we continued experimenting with their diets. Their preference was, of course, for the green, leafy items, and they also devoured broccoli heads and cabbage leaves. Food presented in its most whole form, for example half an apple, was preferred over the diced fruit mix given to the other touraco species. Despite our efforts, one bird died shortly after release into an outside exhibit. Necropsy reports showed an anatomical difference which had never been observed in any of our other touracos.

Instead of a muscular, convoluted gizzard, the bare faced had only a thin-walled, sack-like structure. We later confirmed our findings with an importer who had performed necropsies on quarantine birds. Evidently this organ is designed specifically for storing and digesting fibrous, leafy items similarly found in the ruminant stomachs of cows. The remaining bird in our collection still appears well. His dietary preferences are closely monitored and we are constantly making changes in order to develop a diet which can easily be duplicated by other aviculturists.

Until very recently, *all* greys in U.S. collections originated from shared

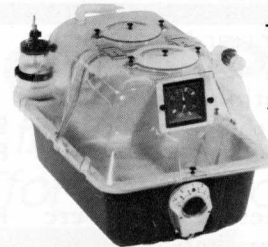
Commercial Members

American Bird Company,
Falls Church, VA
Animal Crackers, Greendale, WI
Avicultural Breeding & Research Center,
Loxahatchee, FL
Bird & Board, Orange, CA
Birds of Paradise, Houston, TX
Birdcraft, Inc., Coconut Grove, FL
Burke's Birds, San Bernardino, CA
Country Critters, Ltd., Medford, NY
Crofton Animal Hospital,
Gambrills, MD
East Coast Aviaries, Inc.,
Conway, SC
Fins, Furs, 'n Feathers,
Boca Raton, FL
Hagen Avicultural Research
Institute, Rockwood,
Ontario, Canada
John Ball Zoological Park,
Grand Rapids, MI

Kaytee Products, Inc., Chilton, WI
Kellogg, Inc., Milwaukee, WI
Lowcountry Parrot Jungle, Ravenel, SC
Magnolia Bird Farm, Anaheim, CA
Michael's Bird Paradise, Inc.,
Riviera Beach, FL
Nekton U.S.A., Inc., Clearwater, FL
Parrot Jungle, Inc., Miami, FL
Pet Farm, Inc., Miami, FL
Petland — White Flint Plaza,
Kensington, MD
Reliable Protein Products,
Studio City, CA
Rolf C. Hagen, Inc., St. Laurent,
Quebec, Canada
Scarlet Oak Aviaries, Glenwillow, OH
Tammy's Landing, Kernville, CA
The Birdman Aviary, Bordheadsville, PA
The Bird Marketplace, Portland, OR
The Seed Factory, Modesto, CA

THERMOCARE, INC. offers Water Heated Warmers for Portable Intensive Care

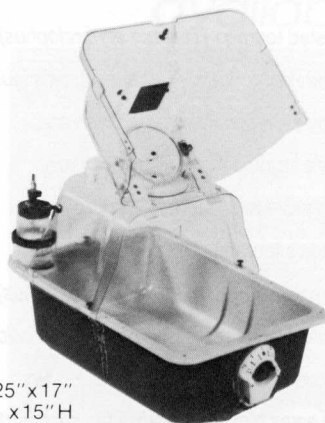
for Aviary, Cattery or Kennel



TEN/CARE UNITS

For treatment of Hypothermia in Newborns, Shock, Convalescing and Post-operative Patients.

With clear plastic DOME cover, SAFE HEAT-is provided, and the means to add HUMIDITY and OXYGEN to the internal atmosphere — an ideal environment for NEWBORNS, or for treatment of respiratory stress.



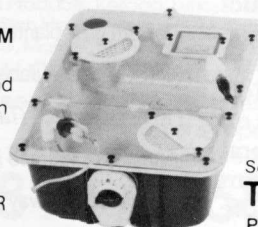
25" x 17"
x 15" H

Economical 90W Heater

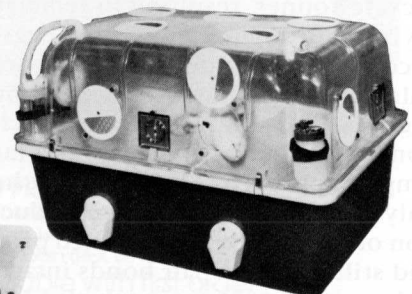
CONTROLLED UNIFORM HEAT (75° - 100°F)

Conducted thru Water and
Circulated by Convection

Also Available:
New
BROODER INCUBATOR
for young chicks



New MEDICATION NEBULIZER included
with all TEN/CARE units



33" x 27" x 25" H or 42" x 27" x 25" H

Send for free Brochure
Thermocare

P.O. Drawer YY
Incline Village, NV 89450 (702) 831-1201

**SAFE HEAT
SAVES LIVES**

Houston/Busch Garden stock, both facilities are still raising this species in small numbers. Fortunately, the San Diego Zoo has started raising young from unrelated birds.

A few other species which are new to U.S. collections have appeared recently, such as western grey plantain eater (*Crinifer piscator*), Fischer's touraco (*Tauraco corythaix fischeri*), and Livingston's touraco (*Tauraco corythaix livingstoni*). The greatest fear is that these "trendier" species will displace species currently in collections, and further reduce the number of touracos which still desperately need work to become safely established in aviculture.

It is a shame that some institutions (and I suspect several private breeders) who were quite successfully raising touracos in the past have virtually eliminated touracos from their collections. This is a great loss to the captive future of touracos for certainly these breeders' expertise and experience is quite valuable and still needed.

Their disenchantment with touracos (and also that of current breeders) has probably stemmed from the inability to rapidly surplus their birds, coupled with the problems of housing expanding numbers of birds. We must remember, no one is asking that we repopulate the African continent, just raise a few birds per year. Management is the obvious key, knowing which bloodlines to continue, and which species to raise in the proportionate numbers and, more importantly, when to stop.

Some colleagues of mine were appalled two years ago when we started "pinning" touraco eggs (placing a small hole in a newly laid egg to prevent further embryo development, allowing parents to sit full term). This protocol was developed as removal of the eggs would only cause the pairs to recycle sooner, resulting in females laying inordinate numbers of eggs, becoming calcium deficient and more vulnerable to egg binding, etc. Dummy eggs will also work but lack of development of their own eggs was a far simpler approach. Also, this was the only practical way to limit reproduction on several over-represented pairs and still keep the pair bonds intact. This management approach also left more time and space to concentrate on species that needed more avicultural emphasis in our breeding program. This practice, in fact, led to a whole new foster rearing program at Houston that I shall report on in part two of this

article.

One of the primary obstacles to breeding touracos in zoo collections is, and has always been, the dread "mixed species exhibit." According to the survey, of pairs kept in mixed exhibits, there were 39 reports of no breeding, nine showing some breeding but with low or no chick survival. Sixteen reported some success. However, the survey indicated that 26 pairs housed as single pairs in separate flights are successfully breeding. That is 74 against and 16 for mixed exhibits — you be the judge!

Indeed, most of the non-breeding pairs of Lady Ross's in zoos are in large, mixed exhibits. I'm sure this is due to this species' large size and "showability." However, due to their rarity, wouldn't it be better management to remove them to proper breeding flights and replace them with violaceous touracos? Violaceous are a similar looking species and one that, at least for now, is doing well. There are currently numerous surplus birds available.

To lessen the guilt trip in U.S. collections slightly, European colleagues are not doing much better. Their collections may be larger and more varied, with species not seen in U.S. collections. However, their breeding suc-

cesses are not remarkable, except perhaps for the Mulhouse Zoo (France) and the private aviaries of its director, Dr. J.M. Lernoald. Other large collections can be found in Antwerp (Belgium) and Walsrode (Germany). The Jersey Wildlife Preservation Trust (British Isles) used to have quite a successful program, but has eliminated all but two species, greys and red crests, and is now breeding only the red crests. (I apologize if I've slighted anyone, as the survey size in Europe was limited to only a few.)

If the question in the back of your mind is: So what? Touracos are not endangered, why aren't there more where these came from?, then it is time you develop a more realistic sense of what the future of aviculture really is.

Unfortunately, what the true status of touracos is in the wild, no one really knows. No field biologists in their right minds would be found pitching their tents in Zaire, or the Sudan, or Ethiopia or any of a dozen more touraco territories. Political unrest and economic hardships have, and will continue to make accurate studies virtually impossible. We will not see white cheeks come out of Ethiopia or Somalia, no red crests will leave Angola. Kenya is closed to exports as is Uganda and as

Touracos Currently Held in North America in Zoos and Private Collections

Species in Descending Population Totals	Totals*	Wild Caught	Number of Breeding Facilities
Red crested touraco (<i>Tauraco erythrolophus</i>)	41.47.22	8.7	16
White cheeked touraco (<i>Tauraco leucotis leucotis</i>)	32.23.8	2.3	14
Violaceous touraco (<i>Musophaga violacea</i>)	16.27.15	12.13.11	3
Schalow's touraco (<i>Tauraco c. schalowi</i>)	10.13.16	3.3	4
Hartlaub's touraco (<i>Tauraco hartlaubi</i>)	15.13.8	9.6.3	3
Lady Ross's touraco (<i>Musophaga rossae</i>)	17.19.2	9.8	3
White crested touraco (<i>Tauraco leucolophus</i>)	10.15.4	4.3	2
Purple crested touraco (<i>Tauraco porphyreolophus</i>)	8.9.1	2.2	1
Guinea touraco (<i>Tauraco c. persa</i>)	10.7	8.3	2
Grey go away bird (<i>Corythaixoides concolor</i>)	9.6.4	2.2	3
White bellied go away bird (<i>Corythaixoides leucogaster</i>)	5.12	4.11	1
Western gray plantain eater (<i>Crinifer piscator</i>)	5.5	5.5	0
Sierra Leone touraco (<i>Tauraco c. buffoni</i>)	4.2.2	3.2.2	1
Fischer's touraco (<i>Tauraco c. fischeri</i>)	2.2	2.2	0
Livingston's touraco (<i>Tauraco c. livingstoni</i>)	3.3	3.3	0
Bare faced go away bird (<i>Corythaixoides personata leopoldi</i>)	1.0	1.0	—

* M / F / unsexed

will be Tanzania. For countries still allowing exports, the remaining numbers of touracos will probably dwindle dramatically making their future more uncertain.

Recently, a friend saw hundreds of Fischer's touracos on loading docks in Africa, awaiting shipment to Europe. These birds live in tiny, isolated pockets along a limited range! He also estimated that, from the numbers being exported, there are probably more Livingston's touracos in captivity now than in the wild. And so on . . .

Even if we can bring new blood into the U.S., what good will it do if we continue along the same well-worn paths; keep a species because it is a novelty, and dispose of it when we're bored or when we've flooded the market with unwanted offspring?

Zoos are certainly not exempt from this line of thinking, but neither is the private breeder. How unfortunate that, in this instance, zoos and private breeders stand on common ground. The birds needed to establish long term management programs are presently in our collections; they are scattered and often in non-reproductive surroundings — but they *are* there.

Hopefully, by the end of this year we will see the initiation of either touraco studbooks to improve genetic management or "working groups" of specialists who are collectively willing to devote time and energy to establishing sound foundation stocks for future generations of both touracos and aviculturists.

I would hope that everyone concerned with this group of birds does their utmost to cooperate in a planned management program. You have everything to gain through shared breeding experiences, shared genetic stock, and a shared sense of purpose.

The second part of this paper will explore in greater detail the actual management of touracos in captivity and provide a working foundation for aviculturists who have never kept touracos but now want to.

I would like to express my thanks to Olivia Fisher and Judith Kinsman for their help with the survey data, and to Robert J. Berry for his suggestions regarding the text of this paper.

References

- Berry, Robert J., 1979. Touracos. *AEA Watchbird*, Vol. VI, No. 4.
 Lindholm, Josef H. III, 1987. Touraco Population in Public Zoos. *The Honeycreeper*, Vol. 2, No. 1.
 Moreau, R.E., 1958. Some Aspects of the Musophagidae. *IBIS*, Vol. 100. ●

NEKTON®

NEKTON®

Experience NEKTON!

The most Benefits . . . per Dollar.





FOR INFORMATION ON NEKTON-S AND OUR OTHER FINE PRODUCTS CALL . . .

NEKTON U.S.A.
 14405 - 60th St. North - Clearwater, FL 34620
 (813) 530-3500

IN CANADA
 Canaviax Products - 41 Links Rd. - Willowdale (Toronto) Ontario
 M2P 1T7 Canada. (416) 223-1165

"A Little Goes A Long Way"

NEKTON - PRODUKTE W.-GERMANY

NORSHORE PETS

A collection of the finest supplies available for your birds.

OUR 28th YEAR



DISCOUNT PRICES
 ABBA Products, Kellogg, Lyric, Scarlett, Silver Song, LaFeber, Nekton, Rich Health, Prevue/Hendryx, Hoi, Fritz, Super Pet, Lular, Duro-lite, Mardel, General Cage, Viobin (REX Wheat Germ Oil)

CATALOG \$2.00, refundable with first order

Books • Nets • Feeders • Stands • Cages • Seeds • Nest boxes • Vitamins

Pick up or shipped U.P.S.

P.O. Box 271 • 6206 South Route 23, Marengo, Illinois 60152




815 / 568-6732

HOURS:
 Mon.-Fri. 8 - 4
 Sat. 9 - noon