

Lady Gouldian Finches

WHITE-BREADED
NORMAL COLORS



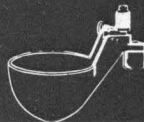
Herschel Frey

1170 Firwood Dr.
Pittsburgh, PA. 15243
(412) 561-7194

AVIARY & ANIMAL PET SUPPLY

P.O. Box 514

Fort Towson, OK 74735



Three Types Automatic Watering Systems, J-Clips, J-Clip Pliers, Flush Ground Cutting Pliers, Pop Bottle Water Founts, Plastic & Metal Feeders, Metal Trays, Breeding & Flight Cages, Parrot Stands & Cups, Incubators, Ketch-All Mouse Traps, Electric Foggers, Automatic Light Timer, Kool Mist Foggers, Medications, Vitamin & Mineral Supplements, Books, Nylon Corner for 1" x 1" Steel Tubing, Canary Nests, Canthaxanthin for Red Canaries, *Much More.*

Send \$1.00 for Illustrated Catalog #3 by First Class Mail.

Aluminum Leg Bands

PROMPT SERVICE • HIGH QUALITY

ORDER 1987 BANDS

Coded Parakeet Closed Bands.
Regular Initial Type Bands, not coded,
in choice of colors, open or closed.
Plastic Family Identification Bands
for keets or canary, choice of colors.
Leg Band Cutters. Bird Claw Scissors.

SEND SELF-ADDRESSED STAMPED
ENVELOPE FOR COMPLETE PRICE LIST.

**RED BIRD
PRODUCTS, INC.**

2786 Fruitridge Road
P.O. Box 20004 (Dept. A.F.A.)
Sacramento, CA. 95820

Captive Propagation and Management of the Guinea Turaco

(*Tauraco p. persa*)

by John Heston
Los Angeles, California

Taxonomy

So distinctive are turacos in general form and plumage pigmentation, it is not surprising that they were at one time collectively considered to be the sole representatives of the now non-existent order, Musophagiformes. Since attempts to "lump" them with other well established taxonomic groups have been interesting, Turacos have been associated with the Galliformes (pheasants, quail, etc.) on the basis they were found to be a potential host to some of the same ectoparasites. Not being qualified in the field of co-evolutionary aspects of host-parasite relationships, I would not attempt to contest the basis of that criteria; however, from a more contemporary taxonomic, or systematic viewpoint, to classify this group of birds on that basis alone seems a hasty decision, and inherently wide open to debate — and in time debated it was. Today, primarily due to anatomic resemblances to the non-parasitic cuckoos, and positive affinities in egg proteins, turacos now comprise the family Musophagidae, within the order Cuculiformes (cuckoos, anis, roadrunners, etc.).

Range

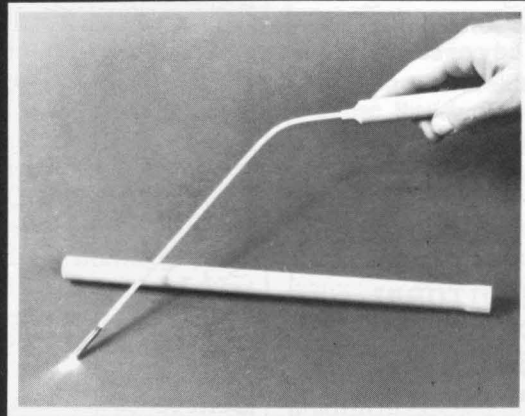
There are about 20 known species of turacos and many subspecies, all of which are indigenous to various regions of Africa south of the Sahara Desert. Some species have a widely distributed range; some are found at astonishingly high elevations, even in non-equatorial regions; and as may be expected with isolated variants such as subspecies and races, some species have a compara-

tively small and restricted range.

Morphology and Natural History

When it comes to obsession and bias with respect to favorite bird groups, aviculturists can be the epitome. Yet, if it is possible to set aside personal preferences and evaluate the fantastic variety of birds found throughout the world, we would find that each species is a uniquely adapted creature reflecting the selective pressures of every conceivable habitat and niche. Likewise, to suggest that turacos are the most interesting animal that ever bore feathers, would lack perspective. Even so, there are some traits, both subtle and otherwise, that are unique only to this family of birds. For a start, turacos are "semi-zygodactylous" — a term that refers to a condition in which the outer toe (#4) is reversible. This means that with a quick adjustment of this outer toe, their feet can assume a zygodactylous position like parrots, woodpeckers, toucans, etc. (two toes forward and two back); or, as with most other species, three toes forward and one back. When observing these birds, even in captivity, it becomes obvious why this trait is so important with respect to maneuverability. This instantaneous option of toe position proves invaluable for the efficient negotiation of the natural randomness of their forest habitat. They are extremely well adapted for running along the length of branches, instantly reversing stationary direction, hopping, and making brief flights through a barrage of dense foliage. It is this characteristic, along with their relatively long tail (a general characteristic of the

CANDLING WITHOUT HANDLING.



With this unique flexible transilluminator.

cuckoo family), that enables these birds to be true masters of the forest canopy.

During short flights, the conspicuously bright red "flash patterns" located on the primary flight feathers are a striking feature. Along with distinctive call notes, it is believed that at least one of the useful purposes of this characteristic may be to help individuals in loosely scattered groups maintain orientation to one another in thick vegetation. Such flash patterns (usually white or bright yellow in other species of birds) may also serve to confuse potential predators that may approach too close for comfort, inducing them to take sudden flight. On many occasions I have seen nesting turacos swell up and display this red wing patch to unwanted intruders. I rather doubt its true effectiveness against an able and determined predator in the wild, as this tactic can be regarded as no more than a ridiculous but courageous bluff from a creature whose only real effective strategy for survival is to take flight from the situation.

The pigments found in the turaco's plumage are remarkable and found nowhere else in the animal kingdom. As a general chemical group, the pigments are fat soluble lipochromes known as porphyrins. Turacin, a copper base pigment, is responsible for the red flash pattern on the wings, and it is an oxidized form of this chemical, turacoverdin, that produces the soft green of the contour, or body plumage. Green plumage in other species of birds is produced primarily by an interacting combination of melanins, xanthins, and structural aspects of the feathers that are

This revolutionary portable light features a high intensity, pre-focused bulb on the end of a ten inch flexible shaft which may be bent into any configuration. Also,

its protective cover may be removed and used as an extension handle which will allow you to reach 27 inches. It is perfect for candling eggs in the nest!

Write to Medical Diagnostic Services, Inc. for more information regarding this and other inexpensive diagnostic products.
P.O. Box 1441, Brandon, Florida 34299-1441. Phone (813) 685-1727.


NEKTON®

NEKTON®

EXPERIENCE NEKTON!!!

*YOU CAN'T SELL THE BEST
IF YOU DON'T CARRY NEKTON.*





VITAMINE - SPURENELEMENTE
NEKTON-S®
FOR ZIERVOGEL

NEKTON-S is one of our many products tried, tested and used World Wide!

NEKTON-S has the ideal balance of vitamins, amino acids, trace elements and minerals.

NEKTON-S... Easy-to-Use, easily digested

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

NEKTON U.S.A.
1905 Tyrone Blvd. - St. Petersburg, FL 33710 (813) 381-5800
IN CANADA
Canaviax - 41 Links Rd. - Willowdale (Toronto) Ontario M2P 1T7
Canada. (416) 223-1165

"A Little Goes A Long Way"

NEKTON - PRODUKTE
W.-GERMANY

Exhibition Quality Only

Rice Birds, Scarlet Chested parakeets, Turquoisines, and Bourke's (rosey, etc.), imported English Budgies

Assorted softbills to trade, buy or sell

Reasonable Prices
Dr. & Mrs. R. Travnicsek

(402) 821-2121

Turkey Creek, Wilber, NB 68465

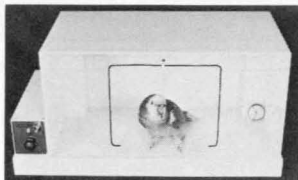


AVICULTURAL SOCIETY OF QUEENSLAND

Welcomes new members

An Australian Society catering to all birds both in captivity and in the wild. We publish a bi-monthly magazine on all aspects of aviculture and conservation. Anyone interested in membership please contact: **Ray Garwood, 19 Fahey's Road, Albany Creek, 4035 Queensland, Australia.** Annual subscription: \$22 (A) airmail, or \$16 (A) surface. Please remit monies or bank drafts in **Australian currency.**

THE FOSTER PARROT



Efficiency in a thermostatically controlled environment for hand feeding babies or the ill bird, through the use of circulated heated air. Durable, light weight, easy to clean acrylite. For more information or a copy of our brochure send a S.A.S.E. to:

MANION CREST

13846 KURTZ RD., GRASS VALLEY, CA 95945
(916) 272-6447

The Avicultural Society of America, Inc.,

Welcomes new members.



We publish a monthly bulletin on all aspects of aviculture. Anyone interested in becoming a member please contact: Helen Hanson, (213) 542-3633, A.S.A., Inc., P.O. Box 2796, Redondo Beach, CA 90278. Yearly dues \$15.00. Overseas members, please add \$5.00 to cover postage.

perceived as blue.

Members of the genus *Tauraco* are so similar in form and behavior, variation in the crest and facial markings appear to be the only obvious distinctive features between species. Like others of its genus, the Guinea turaco is about 17 or 18 inches in length, it has a breast and mantle of green; and the secondary flight feathers, wing coverts, and tail feathers are all a glossy, deep blue-purple. With this sort of coloration, these birds become virtually invisible in dense green foliage. Currently I am maintaining a pair in a small but densely planted flight, and even though the exhibit is only 4 feet deep, it is still difficult to point them out among the dense bamboo, ferns, and nandenas. In my opinion, a functional display that reflects basic aspects of an animal's natural history is most interesting and aesthetically pleasing. At least more so than exhibits based mainly on only color and expense. This species sports a green crest, and if the light is right, a light brush of red is visible on the tip. On the cheek there is a trapezoidal patch of white in front of the eye, a small patch of black below this that extends back under the eye a bit, then another patch of white extends further towards the back of the head. Also, as with many other species, there is a red, wattle-like ring around the eye. It is only the subtle difference in dimension of these black and white markings that render this bird distinguishable from two other subspecies: *T.p. buffoni* and *T.p. zenderi*.

The natural range of *T.p. persa* is equatorial west Africa, inhabiting forests and gallery extensions from Senegal in the north, to south and east as far as the Congo. Unlike the virtual monoculture distribution of vegetation found in temperate and higher latitudes towards the poles, much of the equatorial tropics offers luxuriant rain forest vegetation of astonishing variety, and where seasonal migration of animals is practically nonexistent. In this sort of ecosystem, the same variety of tree or other vegetation may be considerable distances apart, and further, may not be bearing fruit at the same time; thus pressuring the Guinea turaco, and many other animals of the tropical rainforest, to constantly be on the move exploiting available food resources as they find them. It is this aspect of survival, more than any other, that places such a high premium on mobility.

In Aviculture

In the aviary this species, as with many other turaco species, could

generally be regarded as a pacifist with respect to other types of birds; however, care must be taken not to place them with other birds that may target them for aggression. Aggression can, and should be predicted between different species of turacos, or competing members of the same species, aggression which can be very severe and sometimes fatal. From experience I have found that sudden, unpredicted trouble can be offset if the flight is modified so that it provides one or more small sheltered areas on or near the ground in which the victim can take refuge. Terrorized turacos seem to naturally seek out such places as the back corners of feed shelters, spaces under burl or logs, under rock ledges, dense plant growth, or even something constructed especially for this purpose; and such options have proven to provide temporary salvation until a keeper detects and corrects the problem. I have maintained reproducing turacos with Columbigiformes ranging from crowned pigeons to zebra doves, gamebirds, small species ranging from waxbills to Pekin robins, exotic jays, mynahs, parrots, and even those cold-hearted, nest-robbing hornbills at one time or another without problems. Even so, I still regard the exception as the rule and recommend that each person dealing with this species set their own standard of caution.

Turacos do not require an extremely large area even though a larger flight allows them to behave more naturally. They can and will reproduce in small enclosures provided their nest site is relatively free of disturbance by humans or other birds. A well planted scheme is not only preferred, but is virtually indispensable for enhancing their natural behavior. If this is not possible, then at least provide lots of branches and perches. They love water as a spray, mist, or in pools where they can bathe frequently, and it is important to consider this aspect of their behavior necessary for proper care and maintenance as well as recreation.

Diet

The dietary requirements for these birds is very similar or the same as for many other softbills. They do well on a variety of chopped fruits such as banana, grapes, oranges, melons, apple, etc. and even though they are able to gulp down relatively large pieces of softer fruits, care should be taken to chop the more crisp types (e.g. apple) into about the size of a cubic centimeter. Nutrition can be further enhanced by coating the fruit with insectile mixture,



Subadult turaco with both parents.



Young turaco with primary flight feathers extended.

or, as I prefer, mix in soaked dog kibble with the fruit. Wayne's bite-size kibble is ideal. Upon each feeding, the proportion of fruit to kibble is adjusted to insure that some of all the food is consumed. Hardboiled egg, crushed without the shell, is offered during the cooler months, and even though it is not my experience, some say turacos will accept live food such as crickets (see *Handfeeding*). This information

may have been derived from studying wild populations. A dry mix of mynah pellets, raisins, and kibble is always present in a separate food container, and is regarded as a "backup" food supply in case they run out of their regularly prepared diet. The rapid-spoil nature of their daily prepared diet requires that feeding utensils should be cleaned and disinfected before being refilled, and the long, hot and humid days of the summer season may necessitate two separate feedings per day. Feeding is one aspect that makes these birds a relatively "high maintenance" subject in captivity. The diet suggested herein has been time-tested as I have maintained the same steadily reproducing pairs of turacos for about ten years, under varying conditions and stresses, without a single hint of trouble.

Reproduction

Unlike species that inhabit temperate regions and reproduce primarily in synchronization with seasonal cycles, the equatorial Guinea turaco, once becoming sexually active, can retain this accelerated state indefinitely and will recycle year round. During courtship, both sexes simultaneously engage in a mutual vocal display consisting of call notes that sound something like "G-WOK, G-WOK, G-WOK." Some say it sounds like "GO-WAY" which has resulted in referring to them as "go away birds." Both sexes share in the construction of the nest which is made up of a loose amalgam of sticks, some leaves, and preferably fibrous vege-

tation. To insure that the nest does not become a precarious and nerve racking affair, a wire platform or basket 10 inches by 10 inches and 4 inches deep made of 1/2 inch mesh fabric should be provided and, better yet, placed in the most obscure and secluded spot in the aviary. A dark corner is ideal where there is likely to be little disturbance; and as I have done on several occasions, a dense, bushy plant placed in front of and around the nest indeed makes them feel more secure. This kind of situation provides an environment where nesting adults seem to become more reliant on their crypsis (camouflage) as a nesting gamefowl may in tall grass; and as with gamefowl, they will allow an intruder to get very close before this camouflage strategy gives way to flight. The nest platform should not be too large but deep enough to insure that the hatchlings cannot fall out or be crowded out by nestmates. Before I started constructing deeper nest baskets, several consecutive broods resulted in one of the chicks either falling from, or being ejected from the nest and dying from exposure during the first week after hatching. Because I was never a witness to this occurrence, to infer that the chick was ejected is only speculation; however, fledgling rivalry — or in the parlance of the ornithologist, "fratricide" or "cainism" — is a well documented phenomenon in many species of birds.

When nest construction is complete, and all is going well, the hen will lay two white and very spherical eggs approximately 3.7 cm. in diameter. The size, shape and texture remind me very much of ping pong balls. Two is the standard clutch size, but I have seen as many as three fertile eggs laid and hatch successfully. In order to better observe their progress, and photodocument the events in the nest, I rigged one side (the front) of the wire nest platform so that I could flop it down out of the way and resecure it when done. Surprisingly, this particular pair of nesting adults tolerated a remarkable amount of disturbance but, I should add, did so grudgingly. Most of the time they are quick to temporarily abandon eggs, but they will usually stick-to-their-guns while brooding young. When both the parents and chicks are disturbed, the adult will swell up, spreading its wings out and forward, and will appear at least double in size. Both will then open their beaks exposing an enormous gape and most of the time the chick will then regurgitate on the spot. The whole scene seems a very feeble attempt at ferocity.

Finally available,
a complete

Watchbird INDEX

from the very first issue . . .

Vol. I, No. I, August 1974 thru Vol. XIII, No. I, Feb/Mar 1986

70 page detailed index of more than 12 years of all Watchbird articles listed and cross referenced under 3 alphabetized headings.

● Article ● Author ● Topic

- Quickly find any topic or article you are interested in.
- Makes ordering back issues or specific information simple.
- Updated pages will be available each year to keep your index current.

Limited time

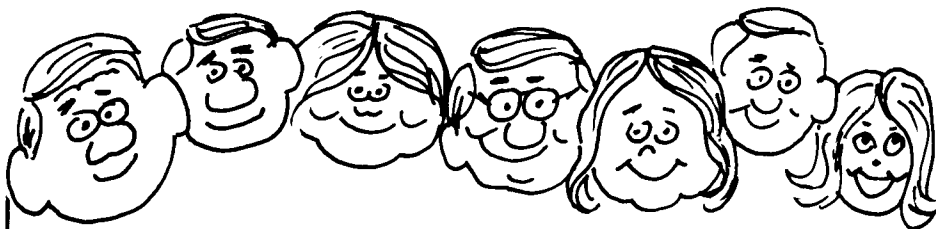
Introductory Offer \$8.75

plus \$1.75 shipping/handling
California residents add 6½% tax.



American Federation of Aviculture
P.O. Box 1568 • Redondo Beach, CA 90278

See order form elsewhere with this issue.



Volunteers Needed

The A.F.A. is in need of a large group of members that would be willing to share their individual skills and talents to help benefit the A.F.A. Regardless of what you feel your qualifications are, A.F.A. has a need for YOUR help. If you have but a few spare minutes or have a few spare hours or even days and would like to help out in any way at all, please take a few of those minutes right now and help by sending us your Name, Address, Phone Number, Occupational abilities, other Skills, Talents and Unique Abilities, your Interests, Contacts with Vendors, ideas you have to promote and benefit A.F.A. and the amount of time you have available.

Please use the easy-to-fill-out full page form inserted elsewhere in this issue.

The American Federation of Aviculture
P.O. Box 1568
Redondo Beach, California 90278
c/o Volunteer Corps

**Donations to the general fund are also most welcome!
Remember — they are tax deductible!**

The eggs are incubated by both parents, each randomly exchanging this duty through the day, and usually both will be in the nest during the night. Because of extreme monomorphism in this species (both sexes appear identical), I banded one of the adults in order to determine if there was some sort of characteristic pattern of exchanging incubation duties, and except that they seem to alternate every few hours or so, I found none. After a 17 to 19 day incubation period, the young break from the egg covered in a charcoal black down which will later turn slightly brownish, and is retained for the first few weeks. The flight feathers are very quick to develop and the young soon begin to venture precariously from the nest, exploring the immediate vicinity. In the beginning it is a little hair-raising, but the young usually get back to the nest all right if there are ample perches and branches available for them to climb. The adults, if intimidated during this period, can become quite irritable, making sharp "chattering" sounds while raising their tail feathers and assuming a very alert posture. They also display a great amount of tenderness and concern towards the young, carefully inspecting and tucking it under their wing for warmth and protection. Until the young are out of the nest and obtaining food on their own, the parents feed them by regurgitation. So innate is this process, turacos will regurgitate on the slightest provocation, such as when handled or even if they become over excited.

At one month, the chick begins to take on the appearance of the adults. The crest begins to develop; the wing and tail feathers are almost completely grown out; and the characteristic red patch on the wings is becoming more prominent. At two and a half months, except for the slightly pale eyes and plumage, the young turaco is now virtually on its own; and by three months, the parents being now almost totally indifferent to the young, will recycle. During this period it is not unusual to find young birds from a previous clutch in the nest with the adults, which not only indicates indifference, but also tolerance.

Artificial Incubation and Hand Rearing

After letting the parent birds do all the work through several clutches, I became curious about the feasibility of artificial incubation and hand rearing this species in an attempt to increase the rate of production. In theory, after a set of eggs were pulled, the parents would soon

recycle, shortening the time span between sets of birds raised to maturity. Having no previous experience at hand raising this species, I decided to cool my heels a bit and let the parents incubate and raise the subsequent set of eggs while I tried my hand at the first.

The eggs were placed in a Roll-X incubator equipped with a quail-size insert rack. Because the eggs are so uniformly round compared to eggs of most other birds, I candled the eggs after four to five days to determine the location of the air space, and marked its center with a small black dot for orientation purposes. This dot was then considered the top of the egg and maintained in that position throughout the entire incubation period. The eggs were turned four times per day and the temperature was set at 99.5 °F for the dry temperature, and 84.0 °F for the wet (for the correct humidity).

When the chicks hatched, each was placed in an individual brood container within the incubator still being maintained at the same temperature and humidity. This brood compartment was constructed of a small, plastic stawberry basket lined with absorbent paper towels that were changed regularly at feedings; and was further lined with small sticks to give the chicks something to grip, and to provide adequate resistance to reduce the risk of the young developing leg problems.

The very first feeding consisted of fruit acquired from the parents by inducing regurgitation. The idea was to transmit and seed digestive tract flora from the adults to the young. On later hand rearing attempts this was not done and the young had no apparent problems processing their food. After this feeding, the chicks were given a diet of soft papaya, soaked dog kibble (Wayne's bite-size), and the soft abdomens of crickets (head, thorax, and legs removed). After the first day the chicks were induced to defecate by gently massaging their cloaca with a cotton swab dipped in mineral oil. This was only necessary for the first couple of days. As the young birds became more alert their appetite increased as well. Lifting the incubator lid was their cue to open their huge gape and begin begging voraciously. From this point on the daily routine became increasingly simple, as they no longer had to be handled when feeding and would take food as fast as they could swallow it. To insure that they were getting plenty of moisture and vitamins, I would stick a piece of fruit or kibble on the end of a toothpick, dip it into a solution of water

soluble vitamins, then place it into the gape of the begging chick. All feeding was done in this manner. As I gained more confidence, the entire process became somewhat of a seven to five operation: The first feeding at seven a.m., a second at midday, and the last and largest feeding at around six p.m. This program sufficed unlike the mid-night and four a.m. business I have experienced when hand raising baby parrots.

After three short weeks the young outgrew the incubator and had to be moved to a makeshift brooder to give them a little more headroom. At first they were placed together in a 10 gallon glass aquarium with a heating pad underneath for warmth. Small branches were also provided because they were both, by this time, demonstrating a preference for perching. Soon thereafter, they were once again transferred, this time to a small indoor bird cage provided with a heat lamp, and a towel draped over the top and three sides to eliminate drafts. After another three weeks — during which time they became slowly acclimatized to the normal indoor temperature flux by gradually reducing the intensity of the heat lamp — they were moved to a standard birdcage (something suitable for a medium-sized parrot). By this time they were eating a full range of food types (which I began to introduce to them between their second and third week) and were simply being maintained until they matured enough to be placed in a flight with other birds. Once there, they are considered exhibitory and, because they are siblings, not allowed to nest. Hopefully, they will later be paired and allowed to reproduce with unrelated individuals in order to maintain genic stability of this species in captivity.

Summary

Since most species of the genus *Tauraco* are so similar, I would speculate that much of this information regarding diet and captive propagation requirements would easily apply to other species and subspecies as well. This notion may be good news for many species from the viewpoint of captive maintenance and reproduction; however, maybe not so for the number of species that all rely upon a similar type of habitat. Considering the current rate at which habitats are being drastically altered, and the projected accelerated rate in the future, what lies ahead for this and other species is a constant confrontation with the sudden catastrophic effects of increasing human

populations and subsequent expansion. Caught in a situation as this, living organisms are usually left with only three rather cynical options: move, adapt,* or die.

Further, turacos are very typical of most of the world's species in that they seem to fall into the category of a sort of nondescript intermediate. That is to say that they are not highly publicized as are "flagship species" or "charismatic megafauna" like pandas, whales, condors, etc. (albeit these are representative symbols for all threatened and endangered animals), and they are not of significant economic importance either, as compared to parrots, finches, etc., in aviculture today. It is not fair or correct to say that these birds are without friends. Field biologists, public and private zoos, ornithologists, and many aviculturists demonstrate their concern and commitment through study and captive propagation.

There is rarely any one answer or simple solution to the complex problems that are involved with the conservation of just a single species. Instead, a multiplicity of approaches and options, based upon all information known about the organism and its environmental interaction should be considered; and in the light of its current survival status as a species. For the Guinea turaco, as with all species of fauna and flora, captive propagation has always been considered, especially as a last ditch effort. If and when the time comes to drop the life boats, this option will only be as viable as the information that is learned and shared about captive propagation of the species today.

*Conversion of natural habitat to orchard farmland may offer an interesting option for turacos, and it is a documented fact that some species do inhabit farmland. The long range success of such a compromise relies on the following:

1. Turacos do not have too specialized of a natural history and can readily adapt.
2. They are tolerated by humans that are cultivating the orchard crops; that is, not perceived as a competitive and menacing pest.
3. They are not preyed upon by animals associated with humans (e.g. cats, rats, etc.) or fall victim to the long- or short-term effects of pesticides.

References

- Welty, J.C., 1982 *The Life of Birds*, C.B.S. College Publishing Co., New York, p. 52.
Burton, M. & Burton, R., 1970 *The International Wildlife Encyclopedia*, Marshall Cavendish Corp., New York, pp. 24-25. ●