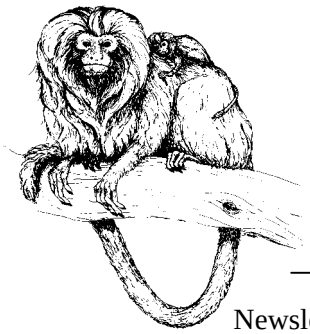


Tamarin Tales

Volume 7, 2003

Newsletter of the International Committee for the Conservation and Management of Lion Tamarins

Viva BraZOOlia !!!

EAZA Rainforest campaign at Antwerp Zoo and Wild Animal Park Planckendael

Visitors to Antwerp Zoo were advised to bring their sunglasses last season – Brazil was coming to town!

Kristin Leus-Centre for Research and Conservation, Royal Zoological Society of Antwerp

Through our studbook and research work with the golden-headed lion tamarin (GHLT), the Royal Zoological Society of Antwerp has a number of different links with Brazil. The European Association of Zoos and Aquaria (EAZA) Rainforest Campaign provided an excellent opportunity to put the spotlight on the Atlantic Rainforest as well as Brazil as a whole.

As soon as they stepped through the gates, visitors to Antwerp zoo travelled through a whole new country, "BraZOOlia", and could discover its cultural and biological diversity. The "latino swing" of Brazil was present in every aspect of the garden. The entrance and restaurant buildings were colourfully decorated with pinatas, flags, posters etc. The flowerbeds were a radiant yellow, blue and green - the colours of the Brazilian flag. The restaurant served one Brazilian dish a day and different Brazilian dance and music groups performed throughout the season.

All of this formed the "back drop" to the biological experience. When the visitors entered the garden, ropes with silhouettes of lion tamarins guided them to the educational exhibit about the Rainforest campaign. Antwerp and Planckendael had joined forces with the Dutch Federation of Zoos to design common education panels. From there on, people were guided to the "Winter Garden", a large green house where one family of GHLTs is housed. Here, they could see and experience some "before the scenes" parts of an education project called "Crawl into the skin of a researcher", sponsored by the Flemish Government. Our education department joined forces with Kristel De Vleeschouwer, our GHLT researcher (currently at work in the Una reserve in a field project sponsored by the National Lottery of Belgium) to provide an interactive education program for school children about the biology of the GHLT and its Mata Atlântica habitat. For example, the children learn about studbook management through a computer "game", they experience how difficult it is to get a spider out of a bromeliad if you don't have long thin fingers, how to tell a lion tamarin from a marmoset only by using your nose, how to locate, catch, follow and study lion tamarins in the forest and how to restore their habitat. In the campaign exhibit and in the winter garden the zoo visitors learned all about the use of corridors. Our gardeners even created a "stepping stone" between two of our groups of GHLTs and explained the potential use of certain species of eucalyptus to provide shade for indigenous forest trees. From then on, the animal experience was widened to the rest of Brazil. The visitor could follow a special path through the zoo that focused on the dozens of different animals from this country. By answering fun and educational questions along the route they could enter into a competition, the main price of which was a trip for two to Brazil!

With regards to the fund raising parts of the campaign, the Royal Zoological Society of Antwerp decided to focus on gathering funds for land purchase around the Una Biological Reserve. A big priority for conservation of the GHLTs is the purchase of land that regularly, but at unpredictable times, comes up for sale around the reserve. Especially if these properties still contain significant amounts of forest, such a purchase is very important. It not only brings more forest under protection, but these forest fragments often also form a natural corridor or stepping stone to other, larger wooded areas around the reserve. If other people purchase the land, the forest may be cut, resulting in more fragmentation.

In total, we managed to collect 10,119 euro. About 3750 euros of this was donated by visitors to our two parks, either in cash in moneyspinners placed next to the education panels, through a "wheel of fortune" game, through a talk to our members or by donations on a bank account. The rest we managed to raise with a bit of imagination and much help from our friends!

Brazilian Flag in flowers at the Antwerp Zoo

Our campaign activities have prompted other groups and organisation to fundraise for the Lion Tamarins of Brazil Fund. The Society of Environmental Reform of the University of Ghent is helping the Royal Zoological Society of Antwerp and the campaign to raise funds for land purchase around the Una reserve. Through their various activities, the plight of Mata Atlântica was introduced to the "environmental circles" of Flanders and Belgium. They have so far already raised 4250 euro and more is on the way! The Antwerp zoo and its GHLTs also faired well with this arrangement. The society has sponsored a Golden-headed Lion Tamarin in the zoo, they have booked a guided tour behind the scenes and have organised for classes of school children to come and experience our Mata Atlântica education program. Who knows, this may even develop in further research and conservation links between our two institutions.

Perhaps less profound but no less fun is the organisation called "The Flying Teapot" (don't ask me why!) who among others organise parties. They sometimes borrow decorative material from the zoo to "dress up" the party venue and because they noticed our activities for the campaign they decided to help us fund raise by asking one euro extra per entrance ticket. In return people received a small certificate saying they helped to save a square meter of Atlantic forest. "The Flying Teapot" managed to raise 600 euro! This example was followed by another organisation called "Karavaan" – a "club" for folk who guide ecotravel tours all over the world. When they asked to use the zoo's palm trees to give their yearly get-together-party a bit of a tropical touch, our park manager was quick on the ball to suggest that instead of paying for the "rent" they contribute something to the campaign. This provided 320 euro.

During August last year, a Joint Nutrition Symposium was being held at the Flanders Congress and Concert Centre of the RZSA. As the host institution, we were encourage to provide ideas for special topics and the organisers of the meeting (the Laboratory for Animal Nutrition of the University of Ghent) were so kind as to dedicate one session of the Congress to the Atlantic rainforest campaign. We are very thankful to the participating nutrition groups (European Society of Veterinary and Comparative Nutrition, European College of Veterinary and Comparative Nutrition, American Academy of Veterinary Nutrition, American College of Veterinary Nutrition, European Zoo Nutrition Research Group, Comparative Nutrition Society) for agreeing to donate the remaining funds of the Congress (after all bills were paid) to the campaign - this brought us no less than 1199 euro!

Muito obrigada!

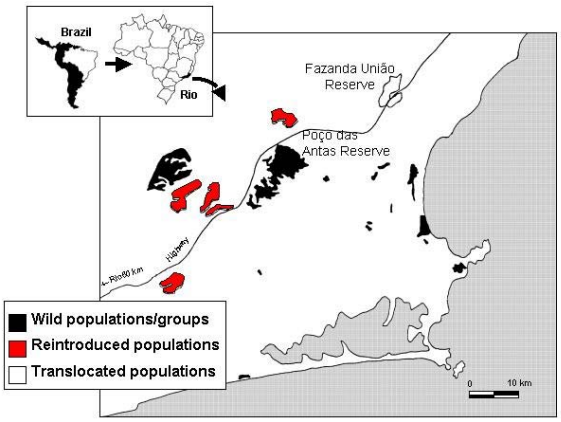
GLT conservation genetics:

A view of the past for a portrait of the present

Adriana D. Gravitol- UENF,

One of the challenges to protect endangered species is to know how much genetic variability is left. Genetic variability is important because it represents the evolutionary potential of a species. Endangered species are characterized by having low number of individuals and low genetic variability, which is usually partitioned among isolated populations. Depending on the distances separating these populations, the gene flow among them may be completely interrupted. In this situation, related individuals start to breed and the rate of genetic variability loss increases. In this extinction vortex, fixation of alleles may occur and, with genetic drift playing a major role, different alleles may be randomly fixed in different populations, given a high genetic structure among the isolated populations.

Habitat fragmentation is one of the major current causes of extinction. Different species respond differently to habitat loss. On one extreme, some species (like birds) can manage intensive gene flow among the fragments. In this case, they can be referred to as just one panmictic population. On the other extreme, species are completely isolated in local populations, with no gene flow among them. In this case, they represent relict populations, which are vulnerable to extinction. The intermediate scenario is a metapopulation, which are isolated populations that still have some gene flow among them.



The dynamic of a metapopulation includes extinction and recolonization. If some population becomes extinct, some other population can recolonize the vacant habitat, as long as migration is still a possibility. Gene flow is the major factor that guarantees the metapopulation survival. When gene flow needs to be managed, through translocations or corridors, the genetic structure of the population has to be known in order to preserve lineages and encourage matings that maintain genetic diversity.

The golden lion tamarin (GLT) (*Leontopithecus rosalia*) is currently distributed in a mosaic-like landscape formed by isolated patches of the original Atlantic Rain forest. Grativol et al

(2001) found a high genetic structure among these wild populations, with some populations showing no genetic diversity. Low migration rates among these populations were inferred from these results. Some questions arouse from these results: Was this the effect of forest fragmentation or was it the original distribution of the species? If forest fragmentation is causing this, how much genetic diversity was lost in this process? How to manage what is left?

To answer these questions, ancient DNA techniques were used to extract DNA from GLT museum specimens collected during the 1800s. Ancient DNA techniques have become an important tool in conservation genetics (Landweber, 1999). Taking the GLT museum specimens as the reference GLT population, some interesting results were found (Grativol et al, in prep). Briefly:

There was a much higher gene flow among the GLT museum specimens analyzed. These specimens were from different localities, including Sepetiba and Rio Paraíba do Sul, which can be considered as the most southern and northern limits of GLT distribution, respectively. From this, we inferred that GLTs were panmictically distributed in the past;

GLT lost approximately 71% of genetic diversity during the fragmentation of the Atlantic Rainforest, as only 5 out of the 17 identified haplotypes were found in the current populations;

One of the haplotypes was currently found only in the captive population, being extinct in the wild.

These results show that the effects of forest fragmentation were drastic for GLTs. Although panmictic in the past, GLTs are currently distributed in a metapopulation fashion. Consequently, the genetic diversity of the species became partitioned among the isolated populations. Conservation strategies should consider ways to intensify the gene flow among the populations as a way to guarantee their survival.

Another important result is that one of the haplotypes is currently found only in the captive population. This points out the important contribution that zoos worldwide play in the conservation of the GLTs. For some of the lineages, the captive population might have been their last refuge. With the GLT reintroduction program, individuals with these unique genes can be brought back to the wild.

With such a drastic loss in genetic diversity, every living GLT, including the captive population, is precious, as some of them may represent unique haplotypes that we have not analyzed yet. For CITES permit reasons, we only had a chance to analyze the captive population from the North American (United States) zoos. Therefore, the contribution that zoos can give to the conservation of GLTs is crucial to its success.

Bird and Monkey Associations at Una Biological Reserve

Sarah Hankerson and Becky Raboy- University of Maryland, Smithsonian National Zoological Park

Birds have often been reported in association with primates that flush insect prey while foraging or moving through the forest. At Una Biological Reserve, in Southern Bahia, Brazil, we have often seen birds following closely behind the golden-headed lion tamarins (*Leontopithecus chrysomelas*) as they forage. Such associations have previously been documented with black lion tamarin (*L. chrysopygus*) and the olivaceous woodcreeper (*Sittasomus griseicapillus*) by F. Passos. Recently we have begun studying the relationship between the birds and tamarins in more detail to determine if seasonal or diurnal patterns exist in association frequency and to assess the impact of habitat quality on the degree of association.

A captive golden-headed lion tamarin grooming a hawkhead parrot at St. Augustine Alligator Farm and Zoological Park

We analyzed data from three groups of golden-headed lion tamarins observed by B. Raboy from 1998 to 2000 at Una Biological Reserve. Observations were taken on birds viewed within 5 meters of the tamarins. The presence or absence of several bird species was noted during 20-minute intervals throughout the day. Birds were identified to the species level, with the exception of woodcreepers (Dendrocolaptidae), which were categorized as one group because of the difficulties in distinguishing one species from another in the tall and dense forest. We also recorded the location of the tamarin group and the habitat type in which they ranged at the onset of each 20-minute period.

Five species of woodcreepers, olivaceous woodcreepers (*Sittasomus griseicapillus)*, plain-winged woodcreepers (*Dendrocincla turdina)*, buff-throated woodcreepers (*Xiphorhynchus guttatus*), lesser woodcreepers (*Lepidocolaptes fuscus*), and red-billed scythebills (*Campyloramphus trochilirostris*), were observed to form associations with the tamarins. Six other species of birds, white-fronted nunbirds (*Monasa morphoes*), white-tailed trogons (*Trogon viridis*), squirrel cuckoos (*Piaya cayana*), red-rumped caciques (*Cacicus haemorrhous*), double-toothed kites (*Harpagus bidentatus*), and screaming pihas (*Lipaugus vociferans*) were also observed to associate. Woodcreepers and white-fronted nunbirds accounted for 92.7% of all observations of birds with monkeys. Both types of birds were

observed catching insects flushed by the tamarins as they foraged in bromeliads. Double-toothed kites were also observed catching insects flushed by the tamarins, although considerably less frequently. It is possible that some species were also gaining access to information about ripe fruits, and that all species were gaining anti-predator benefits, although such benefits were not easily observable in the field. More research is required to distinguish the benefits received by all species.

Neither season nor time of day seemed to play a role in the frequency of associations. Una Biological Reserve does not experience a large shift in temperature or precipitation throughout the year. The aseasonal environment may result in relatively stable resource abundance that may in turn explain the even rate of associations across months of the year. The lack of diurnal association patterns may be a reflection of the fact that golden-headed lion tamarins are relatively active insect foragers throughout the day.

Birds were significantly more likely to be found in association with the tamarins in mature and shade-cocoa forest than in secondary forest. Interestingly, a large variation in association frequency was observed between the three study groups that may be related to habitat quality. The home range of the group with predominantly secondary forest spent only 11.7% of their time in association with birds, whereas the group with the highest amount of mature or shade-cocoa forest in their home range spent an average of 52.0% of their time in association with avian foragers. Moreover, associating bird species richness was highest in mature and shade-cocoa forests, as measured by the number of different species of birds associating with tamarins in any time. The abundance of foraging microhabitats may be an important factor in dictating the frequency of associations. At Una Reserve, bromeliads were the most common foraging microhabitat for the tamarins, and were more abundant in mature and shade-cocoa forests than in secondary forest.

Epiphytic bromeliads seem to provide an ideal environment, with abundant prey, for both the foraging tamarin and the associating birds. Moreover, golden-headed lion tamarins consume fruit from these bromeliads and disperse viable seeds, thus forming a complex relationship between the tamarins, bromeliads and the birds. Wied's marmosets (*Callithrix kuhli*) have also been seen in association with golden-headed lion tamarins. Unlike the birds that follow the tamarins for flushed insects, the marmosets appear to follow the tamarins to gain information about ripe fruit resources. All of these inter-taxa relationships highlight the important role that GHLTs have in their community.

Schools visit the Poço das Antas Biological Reserve

Patrícia Mie Matsuo, Golden Lion Tamarin Association, Environmental Education Program

The biggest protected area to the golden lion tamarin is the Poço das Antas Biological Reserve, a public area managed by IBAMA. It was created in 1974 and occupies an area of 6,300 hectares, in Silva Jardim municipality, Rio de Janeiro State.

In 1989 the first Education Center located on a Biological Reserve in Brazil was open to the public at Poço das Antas. This facility has provided visitors with the opportunity to obtain information about the ecology and behavior of golden lion tamarins and others activities of the Golden Lion Tamarin Association as well as information about the Atlantic Coastal Rainforest and the Reserve.

The Education Center has the following sections:

Exposition room - with informative panels and materials on the local fauna and flora;

Auditorium - the space is designed for lectures, film exhibitions, slides and workshops on community training;

Library - where the public can consult the specialized collection on environmental references.

The Boi Branco Interpretative Trail was created in 1997, near the Education Center. It is 750 meters long with sixteen interpretative signs boards about several characteristics of the local environment.

Patricia Mie Matsuo leading a school group through the interpretive trail at Poço das Antas

Since its opening the Education Center has been operated by the Environmental Education Program of the Golden Lion Tamarin Association.

Among the several kinds of groups that visit the Center, the largest one is student groups. Thousands of students' groups of several levels had been received, from the pre-school to universities. From 1993 to 2002, 176 groups were received, 5,125 students in total.

These students' groups have a defined program especially focused on the conservation of the Atlantic Coastal Rainforest and the golden lion tamarin. These groups come from several municipalities of the Rio de Janeiro State and from others States of Brazil too.

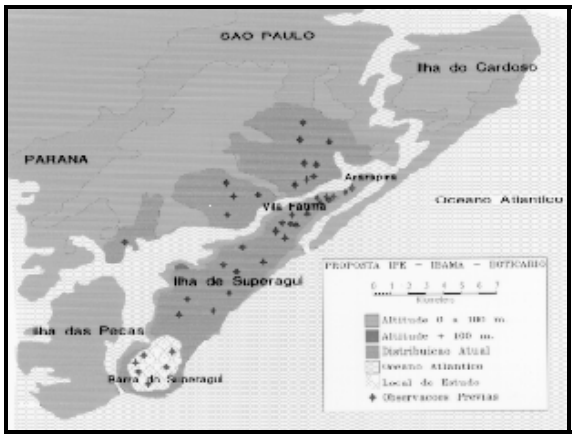
It is important to mention that, under Brazilian legislation, the public access to the Biological Reserves, unlike the National Parks, is restricted just to the organized groups with a clear environmental education purpose. Poço das Antas was the first Biological Reserve to have an Education Center. This fact

could be attributed to the results of the Golden Lion Tamarin Association that created a great demand for information about the conservation of the golden lion tamarin and its habitat, the Reserve and its fauna and flora.

Adventures in the field with black-faced lion tamarins

Paula Beatriz Mangini , IPÊ- Institute for Ecological Research

The black-faced lion tamarin (*Leontopithecus caissara*) was the last species described of the genus. *Leontopithecus*, found in 1990 at Superagui Island in the Superagui National Park, Paraná State coast, Brazil. Since then, some studies have been made about species distribution, ecology, and natural history. The last census estimated 330 individuals for the total population. With the low population size and the limited distribution area, which includes Superagui Island and mainland areas known as Vale do Rio dos Patos – PR (also part of the Superagui National Park) and Ariri, Cananeia – SP, we can imagine that it is a critically endangered species.



In 2003, we from IPÊ – Ecological Research Institute- started a project to evaluate the health of the population of Black-faced lion tamarins. The goal of this work is, through blood analysis, feces analysis, and clinic evaluation, to know the diseases that occur in this species to prevent epidemics and to establish handle and translocation protocols.

This year we made six trips to the field, a total of 120 work days in the mainland area at Ariri region, Cananeia – SP. In this period we found animals 23 times, constituting 3 distinct groups. We accomplished two captures to put on radio-transmitters and two captures to take biological samples. We have captured 10 black-faced lion tamarins, 5 males and 5 females, 8 adults and 2 juveniles. We sampled hair and blood from all animals and all have been marked with transponders. We couldn't put on radio-transmitters in the last group we found yet, but we saw four animals in this group.

On October 22 we did the last capture for samples. These captures are made at night, since the animals are naturally inactivity during this period rather than disturbing them during daily activities. To sample, we camped in the forest with two tents (one for animal handling, one for team lodging) then we followed the group as many days as necessary until they slept in shelter that allowed a safe capture for them and for the team. The group to be captured on this day was very difficult to capture for radio-transmitter placement, costing us 48 workdays in field to do it, and 21 more days for a safe capture, because the radio-receiver presented problems in the irregular terrain where we were. Just two animals were caught when this group was captured to put on radio-transmitters. In the following days while we accompanied, or tried to accompany the group, we could count four individuals. In the moment of capture for sampling, the part of the team who was catching the animals from the night shelter notice that there are more two animals inside the shelter, so the team caught them too. This way, we were able to capture six animals to sample.

Unhappily there are no pictures from this capture because it was raining a lot those days, so the camera stayed on the city lodging to avoid damages. During the handling for chemical restrain the second animal, we notice that this female was pregnant. We did not proceed with the chemical restraint in the future mommy, because she was in the final stage of pregnancy. The sampling was made with just physical restraint, releasing the animal in the transport cage, as fast as we could. The cage cloth in the bottom and it is covered by cloth too, to keep the temperature elevated and a calmer environment to reduce individuals' stress. The pregnant female was kept in the same cage with a juvenile female.

"Around 4:30 AM they heard light calling inside the tamarin tent. They inspected the animals to discover what was happening and realized that the female had begun to deliver her babies…"

All the animals that were sedated recovered by 3 AM, October 23. Part of the team returned back to the city lodging. The other part of the group stayed in the forest to release the group where they were captured at dawn. The team that remained had a big reward. Around 4:30 AM they heard light calling inside the tamarin tent. They inspected the animals to discover what was happening and realized that the female had begun to deliver her babies actually she was finishing giving birth to the first baby. The team observed her delivery at a distance, with sporadic observations, to avoid stress to the mother. She perfectly cleaned the babies and the ground, not leaving any blood marks even on the cloth on the bottom of the cage. Right after the second (and last) baby was born, they both started to suckle. We didn't weight, measure, or sex the babies because the group is not used to human presence. We were afraid that the stressing situation to give birth plus the handling (unnecessary for the babies' lives) could force the mother to abandon them, or even kill them. When we released the animals, both the babies were grabbing their mother, suckling.

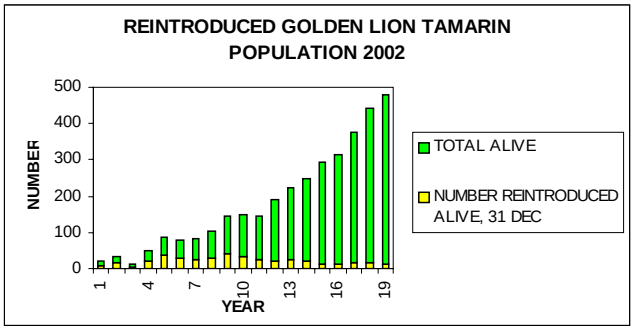
About two months after, we heard news from the local people that they saw the group, with eight animals, healthy and wild!

Grooming black-faced-lion tamarins

Update on the Golden Lion Reintroduction Program

Benjamin B. Beck, Coordinator, Andreia Fonseca Martins, Field Coordinator, and Denise Marcal Rambaldi, Executive Director, Associação Mico Leão Dourado

The reintroduced golden lion tamarin (GLT) population reached 466 in this, our nineteenth year of reintroduction. This growth continues to be due to reproduction on 24 privately owned ranches surrounding the Poço das Antas Biological Reserve in the Atlantic Coastal Rainforest. There were 73 known births and newly discovered older offspring in 2002. The GLTs now live in 64 groups (some of these are transitional) on about 3,400 hectares of forest. No zoo-born tamarins were released in 2002, since all habitat within practical commuting distance for our eight-person field team is at carrying capacity for groups. The proportion of the reintroduced population comprised by wild-borns has increased to more than 94 %, in part due to the loss of five reintroduced captive-borns this year (see below). Survival of the wild-born offspring remains at 69%, averaged over all age classes, largely because they are more quickly self-sufficient than zoo-born reintroductees.



Growth of the reintroduced GLT population

Three GLTs were lost to predators in December 2002/January 2003. One was the captive-born breeding female (studbook #2430) of Jorge's Group. She left an orphaned infant of only 20 days of age, but other group members provided the infant with solid food, and it is surviving. The other two predated GLTs were a wild-born father and infant from the Portland Group. The reintroduction team later captured the Portland female and surviving infant, and placed them with Jorge's Group. Although the female has not been seen to nurse the Jorge's orphan, the newly reconstituted group appears to be compatible. Yet another GLT had her tail bitten completely off, presumably by a predator, but she is recovering and living in the wild. While the details of these predatory events are painful at an individual level, the return of predation on the private ranches is suggestive of ecosystem recovery. An additional 27 GLTs (five that were reintroduced and 22 wild-born descendants of reintroduced GLTs) were declared lost in 2002 because they were older than 10 years and had not been seen nor trapped this year.

The rains failed in September, October and November of 2002, months which coincide with the birth peak. There was far less fruit and fewer insects and frogs in the forest. Two groups living in small and degraded forest began to lose their hair and had to be supplemented with canned marmoset diet. They have recovered, and there appears to have been little effect on fecundity (down about 13% compared to 2001) or infant survivorship (up 2% from 2001) in the reintroduced population as a whole. There could be a relationship between increased predation and decreased rainfall, and there might be other long-term effects. But the rains have returned and fruit and prey are once again abundant in the forests. The GLTs are even reluctant to enter traps for bananas.

While we will continue to try to monitor individuals and groups in the reintroduced population, we are purposively embarking on a five-year plan that will change our emphases from intensive behavioral data collection of provisioned groups with known composition, to population-wide monitoring of less habituated groups whose composition will be recorded twice per year. This will occur in January/February and June/July, when Carlos Ruiz-Miranda and his colleagues and students from the Universidade Estadual Norte Fluminense are available to assist in the labor-intensive trapping, immobilization, measuring and marking the GLTs. Ruiz-Miranda and his associates are comparing population estimates based on walking forest transects with playbacks of GLT long calls, to actual counts of marked individuals. This may lead to a reliable and quicker method for estimating population size.

"…we are purposively embarking on a five-year plan that will change our emphases from intensive behavioral data collection of provisioned groups with known composition, to population-wide monitoring of less habituated groups…"

Reintroduction Team

Nelson Barbosa dos Santos, Subcoordinator

Paulo Eduardo Santiago, Research Assistant/Field Observer

Elisama Moraes dos Santos, Research Assistant/Field Observer

Jabez Moraes dos Santos, Research Assistant/Field Observer

Arleia Fonseca Martins, Research Assistant/Field Observer

Sidnei de Mello, Research Assistant/Field Observer

Oberlan da Costa, Research Assistant/Field Observer

The GLT Reintroduction team discusses progress and planning with Antje Muellner, Project Manager for Asia and South America, Franfurt Zoological Society. Frankfurt Zoological Society - Help for Threatened Wildlife - has supported the golden lion tamarin reintroduction since 1988.

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Stoinski, T.S. & Beck, B.B. In review. Changes in locomotor and foraging skills in reintroduced, captive-born golden lion tamarins. American Journal of Primatology.

The GLT Reintroduction Program has been supported by the following institutions: Frankfurt Zoological Society – Help for Threatened Wildlife, Friends of the National Zoo

A young GLT at Utah's Hogle Zoo

Project for the Conservation of the Black Faced Lion Tamarin (*Leontopithecus caissara*): A History of Actions, Goals, and Partnerships.

Lucia Agathe, IPÊ-Institute of Ecological Research

The black-faced lion tamarin, *Leontopithecus caissara*, was first described in 1990 from Superaqui Island, Superaqui National Park on the northern coast of the state of Paraná, Brazil (Lorini & Persson, 1990).

Since 1995, we at IPÊ (Institute of Ecological Research) have dedicated ourselves to the conservation of the black-faced lion tamarin. Our efforts started with the study of the species' basic ecology and behavior: its home range, daily movement patterns, diet, population size and density. After eight years of research we now know that the black-faced lion tamarin have very strict habitat requirements and a restricted distribution range, and a total wild population estimated at only 330 individuals. We have concluded that the long-term viability of the black-faced lion tamarin will depend on the management activities that ensure genetic flow among subpopulations.

IPÊ's guiding principle is to involve local communities into conservation planning. Parallel to the basic research on the tamarin's ecology and behavior, we have developed a variety of educational activities in Superaqui, in an attempt to share with the "caiçaras" our research and our concerns for the tamarins.

After understanding the basics of the black-faced lion tamarin's ecology and behavior, the program is heading towards the design of a management plan. Right now, we are gathering data on the species health (parasite and disease levels), and on habitat availability in different areas of Superagui National Park. Our goal is to have a management plan ready for implementation by the end of 2004.

Any comprehensive program for the conservation of a species requires long-term planning and commitment. It also requires the resources that will guarantee its execution and continuity. To accomplish our mission, we rely on the support such as that provided by The Lion Tamarins of Brazil Fund, to make the conservation program for the black-faced lion tamarins possible.

Today we have a multidisciplinary team of biologists, veterinarians, and environmental educators working together in several research lines of the black-faced lion tamarin conservation program. Many of these researchers started in the program as interns and today are qualified professionals in the fields of ecology, conservation biology, and wildlife management. The training of these young professionals has been made possible thanks to sponsors and collaborator who believe in our work and the importance of the conservation of the black-faced lion tamarin and the Brazilian Atlantic Forest.

The black-faced lion tamarin research team

The role of women at the agrarian reform settlements surrounding Poço das Antas

Maria Inês da Silva Bento, Golden Lion Tamarin Association

Since 1997, the Environmental Extension Program (ExA) of Golden Lion Tamarin Association (AMLD) has supported the development of an agro forestry system and agro ecology practices in the agrarian settlements surrounding the Poço das Antas Biological Reserve. During this process, the ExA team felt the need to work on gender issues, specifically getting the women involved in the project design and development, to improve their quality of life and build up a common sense of citizenship.

Supported by a small grant from Lion Tamarins of Brazil Fund (LTBF), last year we did many activities to facilitate a group of women from Sebastião Lan I settlement in Silva Jardim Municipality – Rio de Janeiro State. The main goal was to encourage and guide the woman to produce environmentally friendly handcrafted goods while increasing their family income. Seventeen women attended the first cycle of courses and meetings done with support from consultant and a psychologist. From those, at least six are making some profit from their production.

Lion Tamarin Fundraising:

Austin Marchese of New York decided to celebrate his birthday with a golden lion tamarin marathon. He and his friends raised $110 and donated it to the Lion Tamarin of Brazil Fund. Thanks Austin!

Crystal Garden Conservation Centre in Canada came up with this creative conservation meter especially for lion tamarins. Last year they raised about $2000 for the Lion Tamarins of Brazil Fund. Great idea!

Lion Tamarins of Brazil Fund

Bengt Holst, Copenhagen Zoo

From 2002 till August 2003 the Lion Tamarins of Brazil Fund has received $284,271 USD. The major part of that amount came from the EAZA Atlantic Rainforest Campaign (see special article), but money was also received from our loyal donors in other parts of the world. Together the many donors not only constitute the financial basis of the Lion Tamarins of Brazil Fund, but they are also a standing proof of the dedication of zoos to conservation of the four Lion Tamarin species. It is my sincere hope that the support will continue in the coming years. Conservation is a question of long term commitment, and a loyal group of supporters is the best one can wish for serious conservation projects. I thus want to thank all institutions and single persons cordially who have contributed to the Lion Tamarins of Brazil Fund during the reporting period. A special thank to those who have indicated to continue their valuable support also in the years to come. All contributions, big and small, are most appreciated and are earmarked for field projects supporting Lion Tamarin conservation.

From 2002 till August 2003 the following institutions and single persons have contributed to the Lion Tamarins of Brazil Fund: Thank you!

Aalborg Zoo
AAZK/Los Angeles Chapter
Amsterdam Zoo
Miss Hannah Anderson
Apenheul Primate Conservation Trust
Bioparco Roma Sud
Birdland Park & Gardens
Blackpool Zoo
Borås Djurpark AB
Brandywine Zoo
Bristol Zoological Gardens
Burgers' Zoo bv
Cerza Conservation
Chester Zoo
Colchester Zoo
Conservatoire Pour la Protection
Copenhagen Zoo
Crystal Gardens
Dierenpark Wissel
Dolfinarium Harderwyk BV
Drusillas Zoo Park
Dublin Zoo
Dudley and West Midlands Zoo
Durrell Wildlife Conservation Trust
Fota Wildlife Park
Foundation Friends Safari Beekse Bergen
Freunde und Förderer der Wilhelma Zoo
Friends of Banham Zoo
Friends of Helsinki Zoo
Furuviksparken AB
Givskud Zoo
Harewood House Trust
Haus des Meeres Vivarium Wien
Hogle Zoo
Jardim Zoologico Aclimacao Portugal
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Lee Folmar
London Zoo
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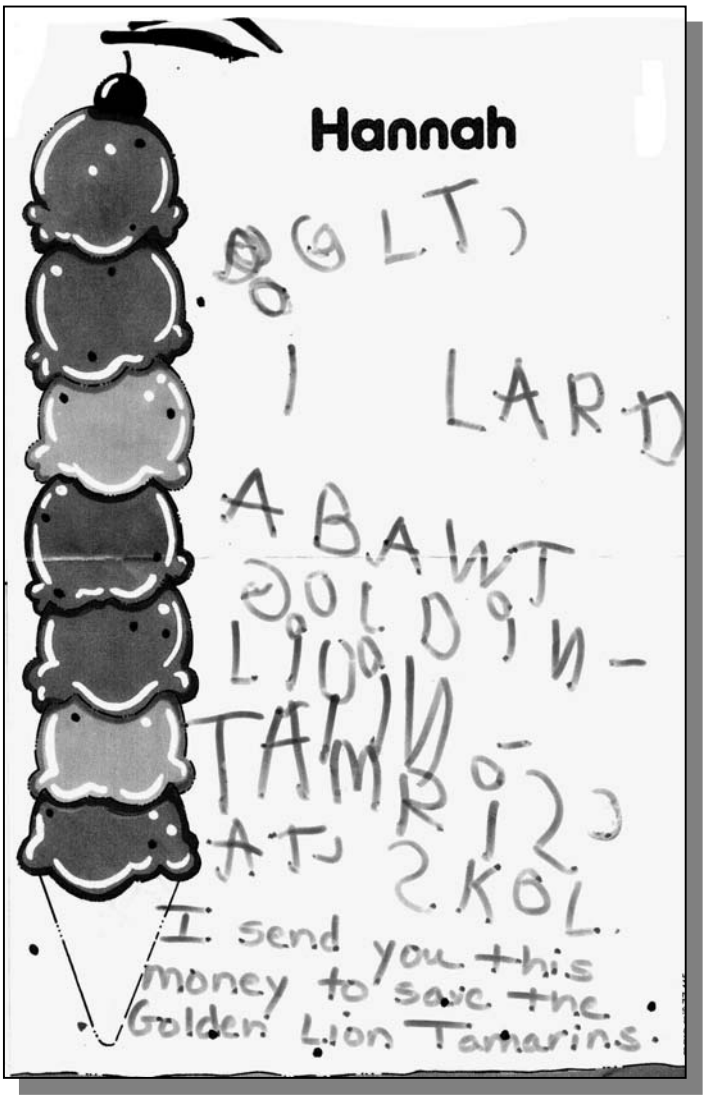
Martha Margrethe Larsen
Mundo Aquático - Parques
National Aquarium In Baltimore
Noorder Dierenpark BV
Odense Zoo
Oklahoma City Zoo
Ouwehands Dierenpark BV
Paignton Zoo
Palm Beach Zoo
Paradise Wildlife Park
Parc Zoologique
Parc Zoologique et Botanique de Mulhouse
Parco Zoo Punta Verde
Pittsburgh Zoo And Aquarium
Plock Zoo
Poznan Zoo
Rare Species Conservatory Foundation
Recreatiepark Beekse Bergen BV
Rosamond Gifford Zoo
Rotterdam Zoo
Ruhr Zoo
Ruhr Zoo Gelsenkirchen
S.E.C.A.S
SA Parc Paradisio
Saitama Children's Zoo
Salzburger Tiergarten Hellbrunn
Sedgwick County Zoo
Skansen Akvariet
Southport Zoo Ltd.
St. Augustine Alligator Farm
Stapeley Water Gardens
Stichting Apenheul
Szegedi Vadaspark
The Friends of Banham Zoo
The Marwell Preservation Trust
The Royal Zoological Society of Scotland
Tiergarten Heidelberg
Tiergarten Schönbrunn
Tisch Family Zoological Gardens
Toronto Zoo
Trevor Zoo And SCAPE
Tulsa Zoo Park
Twycross Zoo
Vogelpark Avifauna
VZW Koninkl Maatschappij Voor
Woburn Safari Partnership
Woodland Park Zoo Society
World of Birds Wildlife Sanctuary
Zoo Duisburg
Zoo Fauna Tropical
Zoo Parc Overloon
Zoo Wuppertal
Zoogesellschaft Osnabrück e.V.
Zoological Society of Wales
Zoologischer Garten Basel
Zoologischer Garten Halle
Zooparc de Beauval



"GLT

I learned about golden lion tamarins at school"

Miss Hannah Anderson, age 5 ½

Hannah donated $28.70 to the LTBF from money she earned doing house-hold chores.

Thank You Hannah!

Tamarin Tales is produced by the Smithsonian National Zoological Park and the International Committee for the Conservation and Management of *Leontopithecus*

Editors: J. Mickelberg and J. D. Ballou
Smithsonian National Zoological Park
Conservation and Research Center
Smithsonian Institution, Washington, D.C. 20008.
Email: Hballouj@nzp.si.eduH
Tel: (202) 673-4828
Fax: (202) 673-4686

Written Contribution to Tamarin Tales are Welcome

YOU can contribute to the Lion Tamarins of Brazil Fund as well

Please contribute to the Lion Tamarins of Brazil Fund. These funds are used exclusively to support *in situ* field projects in Brazil and are distributed annually. Contributions from North and South America should be sent to Jon Ballou at the Smithsonian National Zoological Park, Washington DC. Contributions from Africa, Asia, Australasia and Europe should send checks to Bengt Holst at the Copenhagen Zoo (see addresses below). Please use the form below when sending contribution.

Appeal Form
The Lion Tamarins of Brazil Fund (LTBF)
For the fiscal year September 2003 – August 2004

An Appeal of the International Committee for the
Conservation and Management of Lion Tamarins
(*L. rosalia, L. chrysopygus, L. chrysomelas, & L. caissara*)

Name: …….....

Address: .....

.....

Institutional Affiliation (if any).…….

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FUNDS DONATED*: …….....

Signature: ..... Date: …….

* Checks/cheques should be made payable to ***"The Lion Tamarins of Brazil Fund"*** and sent from:

1) Contributors in North and South America to **Jonathan Ballou, Dept. of Conservation Biology, National Zoological Park, Smithsonian Institution, Washington, D.C. 20008, USA** (tel: (202) 673 4828; fax: (202) 673 4686); e-mail: ballouj@nzp.si.edu).

2) Contributors in Africa, Asia, Australasia and Europe to **Dr. Bengt Holst, Copenhagen Zoo, Sdr. Fasanvej 79 DK-2000, Frederiksberg Denmark,** Tel: (45) 72 200 220, Fax: (45) 72 200 219, Email: beh@zoo.dk