



Blue-fronted Amazon Project in Brazil

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Having worked for more than 15 years with captive parrots, I think I never understood well the species I was working with until I saw a pair of macaws flying in the wild in Central America. My awareness of these amazing birds was further heightened when recently I was fortunate to spend some days in the Brazilian Pantanal with Gláucia Seixas, who has been studying Blue-fronted Amazons (*Amazona aestiva*) for over 20 years.

This is their story.

THE BLUE-FRONTED AMAZON IS WELL KNOWN in captivity for its amazing abilities to imitate the human voice and other sounds. This skill has unfortunately helped to put the species in jeopardy: it is one of the species that has been most affected by illegal trade.

In Brazil, thousands of chicks are taken from the wild each year, most of them from the area of Cerrado, to supply the national market. From those numbers, only a few hundred are confiscated yearly and taken to wildlife rehabilitation centres for recovery and future release. The total number of parrots taken from nests, as

well as those that die before being sold as pets, is unknown.

That situation caught the interest of Gláucia Seixas, who in 1993 started studying this species while she was working at a wildlife rehabilitation centre in Campo Grande, the capital of the Brazilian state of Mato Grosso do Sul.

Her first study monitored the reintroduction of confiscated chicks into the wild: she concluded that the behavior of reintroduced parrots was a bit abnormal, not interacting well with wild Amazons and trying to get close to people.



Rappelling and climbing high trees to check on Blue-fronted chicks in the nest

Now, 23 years later, Gláucia has unveiled many aspects of the biology of the Blue-fronted Amazon, studying the species in the areas of Pantanal, Cerrado and Serra de Bodoquena, in Mato Grosso do Sul. In this article, we will share some of her work and conclusions about this amazing species.

We are in Caiman Ecological Refuge in the Brazilian Pantanal, an authentic paradise for wildlife lovers, where Giant Anteaters (*Myrmecophaga tridactyla*), Hyacinth Macaws (*Anodorhynchus hyacinthinus*), Greater Rheas (*Rhea americana*) and Capybaras (*Hydrochoerus hydrochaeris*) are easily seen daily, among many other wildlife species.

The population of Blue-fronted Amazon is in a fairly good condition in Pantanal, and some *fazendas* (very large private ranches where extensive cattle production may be

combined with wildlife tours) allow Gláucia and her team from Fundação Neotrópica do Brasil free access to perform their studies.

We wake up with the sounds of the Amazons in the trees near the camp base, where the animals gather at night to roost together. Gláucia has studied this behavior in depth and has found out that most roosting sites are located in groups of trees with dense foliage surrounded by open areas, which may help the birds to see when predators are approaching. Adult Blue-fronted Amazons sleep in roosts even when they have grown chicks in the nest, and only one of the parents stay at night in the nest during the first 20 days of life of the chicks.

Gláucia has counted up to 3,200 Blue-fronted Amazons in a single roosting site, and has seen other psittacine species such as Peach-fronted Parakeets (*Aratinga aurea*),

Scaly-headed Parrots (*Pionus maximilliani*), Orange-winged Parrots (*Amazona amazonica*) and Yellow-chevroned Parakeets (*Brotogeris chiriri*) which, among others, may use these roosts in fewer numbers.

It is October and the Pantanal is at the end of its dry season. The Amazon's reproductive season is well under way, as it starts in August and ends in November. After a quick breakfast, we leave the base camp to start visiting the nests that are being monitored.

Most nests (97%) are in trees or wooden posts, with a few pairs using other structures such as termite mounds or nests constructed by Monk Parakeets (*Myiopsitta monachus*). Availability of tree holes is essential for reproduction, but Amazons do not display a clear pattern with their choice of cavity.



Tracking weight patterns is critically important for assessing the health and vitality of chicks, both in wild and captive situations.



Vandir Silva, Gláucia's field assistant, is in charge of checking what is inside the nests, for which he uses ropes and a small digital camera or an inspection camera. Once a picture is taken and viewed, the information is recorded and chicks, when they are present and accessible, are taken out of the nest for a few minutes to gather information such as weight, measurements, possible disease conditions, volume of the crop and other information.

On occasion, the researchers have found other visitors in nest cavities previously used by Blue-fronted Amazons, such as Lesser Tamanduas (*Tamandua tetradactyla*), domestic cats, owls or toucans. The Toco Toucan (*Ramphastos toco*) is one of the Amazon's competitors, as it prelates eggs and chicks, and steals cavities from them.

Predation is one of the main causes of nest failure, but there are others like severe weather (where nests may become flooded), unsuccessful hatching and, in some other areas,

poaching. The information obtained from visiting nests, as well as direct observation of adults, has given Gláucia a good insight on the reproductive behavior of this species. As a general rule, Amazons lay four eggs, three chicks are born and only two leave the nest. Rainy years are associated with better reproductive performance. The asynchronous* egg-laying is a factor against the last chick, and sometimes differences up to 15 days are seen between eggs.

Gláucia has also gotten to know everything that happens inside a nest. For the first 20 days after the eggs hatch, both parents are very active around the nest, although only one (probably the mother) stays all the time with the chicks. During this early period, the chicks' eyes remain closed and there is little activity. Between days 21 and 40, both parents search for food and visit the nest several times a day to feed and protect their chicks. Between days 41 and 60, both parents visit the nest only at dawn and dusk.

Gláucia has taken this research further: when she studied the growth of captive versus wild chicks she discovered something interesting. Amazon chick growth in the wild is similar to that observed in captive animals, although wild animals grow a bit faster and captive ones gain weight for a longer period.

In wild Amazon chicks, the maximum weight gain per day is 10-20 grams, and occurs when they weigh between 200 and 300 grams; this weight gain stops (or even becomes negative) when chicks are about 400 grams (at about 64 days of age). At the end of the growth phase, males are 20-40 grams heavier than females.

In actuality, Blue-fronted Amazon chicks lose an average of 4% of their maximum weight, something common in other species, and some of them can start losing weight at 50 days of age. This weight loss can be due to flying exercise and decreased food provided by parents at the final stage of growth (to stimulate the chicks to leave the nest).

*Not occurring at the same time. In Amazons, eggs are laid every 24-48h, but incubation starts when the first egg is laid.



Gláucia Seixas, taking measurements of a Blue-fronted Amazon chick

It is also important to consider that several types of parasites can retard growth in wild animals. By comparison, captive-raised birds continue growing for a longer time and they are usually heavier at flight than wild ones, as in captivity food offering is not reduced and they do not need to consume energy with thermoregulation.

And finally, Gláucia has studied feeding behavior of Blue-fronted Amazons in the Pantanal; by direct observation, she has determined that the species is mainly granivorous, with arboreal seeds representing

60% of its diet. Other items consumed include flowers and the pulp of some fruits. Blue-fronted Amazons are quite generalist regarding the type of seeds consumed, feeding from 50 different species of trees in the Pantanal.

For over 20 years Gláucia Seixas' research has brought compelling insights into the ecology of these birds, and of their captive counterparts. In 2005, the Blue-fronted Amazon Project expanded its research to include 12 other psittacine species that occur in

the Pantanal and Cerrado, such as Yellow-faced Amazons (*Alipiopsitta xanthops*), Orange-winged Amazons (*Amazona amazonica*) or Nenday Parakeets (*Nandayus nenday*) among others.

The week I spent travelling with these researchers has given me a glimpse into their lives that few get to experience. It was an incredible week. I am very much looking forward to going back to Pantanal, to see all of the amazing animals there. □

Bibliography

- Seixas GHF, Mourão G. Assessment of restocking blue-fronted Amazon (*Amazona aestiva*) in the Pantanal of Brazil. *Ararajuba* 8(2): 73-78, 2000
- Seixas GHF, Mourão G. Nesting success and hatching survival of the Blue-fronted Amazon (*Amazona aestiva*) in the Pantanal of Mato Grosso do Sul, Brazil. *Journal of Field Ornithology* 73(4): 399-409, 2002
- Seixas GHF, Mourão G. Growth of nestlings of the Blue-fronted Amazon (*Amazona aestiva*) raised in the wild or in captivity. *Ornitologia Neotropical* 14:295-305, 2003

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