

# A record number of Red-tailed Amazons, AND HOW NESTBOXES HAVE HELPED

Dr. David Waugh  
 Director, Loro Parque Fundación

Restricted to a narrow coastal strip of Atlantic rainforest in southeast Brazil, the Red-tailed Amazon is a threatened species, but for which there is real optimism. At the end of the 1990's, BirdLife International estimated its entire population at between 2,500 and 3,500 individuals, and it was classified as 'Endangered' in the Red List of Threatened Species. Responding to that serious situation, since 1997 the Loro Parque Fundación (LPF) has been supporting in situ conservation actions to prevent the disappearance of this handsome species.

The results of these conservation measures are very encouraging. Since they began, the population has gradually increased year-by-year, and the most recent census, conducted in 2014, has revealed a population which now numbers a record 7,452 individuals. The LPF first supported Pedro Scherer-Neto, of the Curitiba Natural History Museum, to undertake the annual counts, which in the most recent decade have been continued by the Society for Wildlife Research and Environmental Education (SPVS - Sociedade de Pesquisa em Vida Selvagem e Educação Ambiental). The partnership between the LPF and SPVS is not only to conduct a population monitoring census, but also includes the all-important protection of the Red-tailed Amazon breeding sites and the raising of awareness among residents and visitors about the species and its habitat.

Several factors could have contributed to the population increase, but special attention should be given to the increased annual recruitment of young birds to the population as a result of the SPVS and LPF project. There is no doubt that the constant presence of the project team, led by Elenise Sipinski, in monitoring the reproduction of the species in its important breeding sites on the north coast of Paraná state has deterred would-be nest poachers from removing chicks to sell as pets. Furthermore, the close management of nests, and sites for nests, by the SPVS team has provided the species with more breeding opportunities than would otherwise have been the case.

A shortage of suitable nest cavities for Red-tailed Amazons has come about because in general the cavities in this wet coastal zone rot very quickly and become unsuitable. Activities of the



Top: Adult Red-tailed Amazon at an artificial nest made of PVC. (Credit: Zig Koch/SPVS)

Red-tailed Amazon chicks in a natural cavity. (Credit: SPVS/LPF)



Four Red-tailed Amazon chicks in a wooden nest-box.  
(Credit: SPVS/LPF)

local people add to the shortage by their selective removal of the preferred nesting trees, which also happen to provide the best timber. To reduce the impact on the nesting trees, the project is developing economic alternatives with the local community, notably the production of honey from native species of bees. The scarcity of cavities gives rise to fierce competition for each desired residence, in particular between the Red-tailed Parrots and various kinds of mammals, snakes, other birds and the introduced Africanized honey bees.

Meanwhile, the pressure to find a site and breed can be so strong, that Red-tailed Amazons have even been found nesting somewhat precariously amongst epiphytic bromeliads. However, by the annual installation of both wooden and PVC nestboxes, and the constant repair of these and also the natural cavities, the project has created more breeding opportunities for Red-tailed Amazons, and a steady increase in the production of young birds over a period of more than ten years. Naturally, the competition with other species still occurs, including in the nestboxes as you would imagine; but there is not a shadow of doubt that these boxes have contributed to the comeback of this parrot. The threatened status of the Red-tailed Amazon has now been reduced to 'Vulnerable'; and the project fully intends to work hard to remove this emblematic species from the Red List.



Eggs of Red-tailed Amazon laid in a depression in an epiphytic bromeliad.  
(Credit: SPVS/LPF)



Above: A predatory nest competitor, the Southern opossum (*Didelphis marsupialis*).  
(Credit: SPVS/LPF)

Right: A wooden nest-box for Red-tailed Amazons occupied by honey bees (*Apis mellifera*).  
(Credit: SPVS/LPF)





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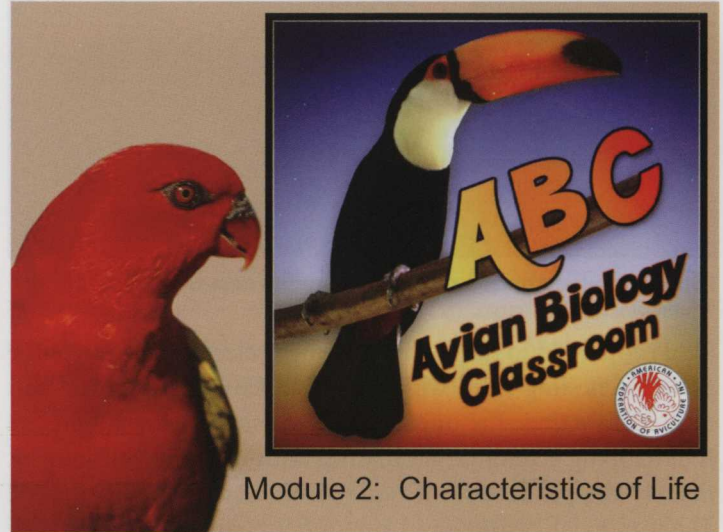
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# The Avian Biology Classroom (ABC): A NEW EDUCATIONAL EFFORT FOR AVICULTURE

By Jason J. Crean, MA, MS

For many years I have shared my fascination and interest in birds with my own biology students at both the high school and university level; and the opportunities to do so are endless. One can discuss birds when teaching about the intricacies of ecosystems and the vital roles birds play, or how different species reproduce in an effort to pass on their genes to the next generation. Recently I used birds to bridge evolutionary topics, particularly how species have adapted to their environments, to homeostasis, the ability of organisms to maintain balance in their bodies. When I introduce topics, I like to start with a phenomenon, something that is quick to catch the attention of the students. So, with the help of my own birds and some feathers donated by friends like Steve Duncan, I provide my students with different types of feathers. Some feathers were used for flight and others, like that of the emu, have no flight advantage but are good for insulation. Without telling students anything about the feathers or the birds that shed them, they engage in comparing them to determine their probable function. I then show them some of the recent findings in dinosaur feathers; and they quickly realize how similar the feathers of the emu are to the feathers trapped in fossilized amber. This leads them to start questioning whether these dinosaurs were warm-blooded or not and what other evidence had been discovered that could support that claim. We even discuss that birds roaming the Earth today are actually considered “avian dinosaurs”, though all “non-avian dinosaurs” have gone extinct. Needless to say, the students are motivated to find out more.



Module 2: Characteristics of Life

It is experiences like these that motivated me to begin designing an educational program that would teach biological concepts through aviculture. I have been blessed to have been recognized for my teaching, including by the President of the United States; and this has afforded me countless opportunities that I never thought possible. This includes unique training opportunities that enhance my teaching and increase the teaching tools I have at my disposal. In my work outside the classroom, I have had the opportunity to work with geneticists, paleontologists, veterinarians, evolutionary biologists, ichthyologists, animal nutritionists, zookeepers and others. From these collaborations, I get so excited that I compose classroom activities that use the work of these real-world scientists so students can see how science works. One example is my Zoo Genetics curriculum ([www.xy-zoo.com](http://www.xy-zoo.com)), a free curriculum written in collaboration with Dr. Jean Dubach, geneticist at the Wildlife Genetics Laboratory in Chicago. This curriculum has garnered much attention because of its ability to teach students through the use of interesting storylines with pertinent research questions. As I have traveled the country over the years speaking at both professional conferences and avicultural groups, it is clear that people want to hear the stories behind the science. So why not share these with students, club members, or anyone who could benefit from learning more about birds?

With all the countless groups to which I've presented, it is clear the aviculturists have a love of learning. Yes, it's true that some claim to know more than others, but it's quite clear that everyone can stand to continue their learning as

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new ideas are put forth. The ABC program aims to do just that. With each module, a presentation walks participants through content and engages the learner. Each module also includes accompanying guided notes so participants can follow along with the presenter. Presentation notes are embedded so the presenter has additional background when presenting the content to the observers. An additional "sense-making" activity helps reinforce the content taught and exposes the learners to a real world example of how science is used to study birds and/or their environments. All of these materials are available on the AFA website under the Education tab. All materials are free for download and are in PDF format. The PowerPoint is also available as a 'read-only' file. In the first module that is available, the kakapo is featured, and one of the conservation studies is highlighted. Thanks to Robin Shewokis for her wonderful pictures from her trip to visit the kakapo in New Zealand. The support activity highlights the work with owls done by AFA member Caroline Efstathion; so thanks must also go to her for her work and contribution to our program. It is my hope and the hope of the entire AFA Education Committee that reviews these materials before publication, that bird clubs and classrooms alike can make use of these modules and continue the learning experience for their members and students, all the while keeping birds in the spotlight.



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