PsittaScene

The Magazine of the World Parrot Trust

Summer 2014

PsittaScene

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CONTENTS

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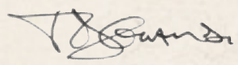
From the Director

Although the Trust staff is widely dispersed, we function like a close-knit family, working together year after year, with only occasional change among ranks. Earlier this year, we had a transition in our ***PsittaScene*** team with our editor moving on, and her duties being acquired by two of our existing staff in Canada.

Joanna Eckles started with the Trust back in 1999 as administrator of the fledgling WPT-USA branch. In May 2006, she turned that job over to Glenn Reynolds, and embraced the editing of *PsittaScene*. "Editing" in this case meant wearing many hats - from content and copy editor, to designer, among others - always working hand-in-hand (if across the "pond") with Karen Whitley in Cornwall, UK. Together, they put each issue successfully "to bed" four times a year, with Joanna's keen editing and creative design eye bringing the magazine a new and professional look, along with consistently high-quality content. Alas, after giving us 15 dedicated years, Joanna has moved on to a full time position with Audubon Minnesota, where she's heading up bird conservation projects.

With Joanna's capable shoes to fill, we were relieved to realize we already had these skills elsewhere in the WPT family, especially editing finesse which Desi Milpacher has honed in over 80 issues of *Flock Talk*, the parrots.org website, campaigns, and online publications. And Michelle Kooistra has developed a strong design sense while working on WPT campaigns, websites and other projects. Desi and Michelle will continue working closely with Karen, who coordinates the assembly and printing process, and posts each copy to its appropriate destination around the world.

So while we're all sad to say a fond farewell to Joanna, we're also excited for this issue to be the first with Desi and Michelle working successfully in her stead. We hope you enjoy the work of our newly formed team now and for years to come.



Jamie Gilardi,
Executive Director

ON OUR COVERS

FRONT A **Great Green Macaw** *(Ara ambiguus)* rests in a tree in Central America. These macaws are endangered in the wild. See *The Rescue*, page 10. © Steve Milpacher

BACK A wild **Scarlet Macaw** *(Ara macao)* takes flight in Copan, Honduras as part of a breeding program begun by Macaw Mountain Bird Park and Nature Reserve. © World Parrot Trust

> "...we run a very real risk of allowing the extinction of a species simply because we failed to recognize it as such."
>
> What's in a name, page 4

Mealy Amazon © Jason Rothmeyer

What's in a NAME?

By Timothy F. Wright and Michael A. Russello

In Act II, Scene 2 of Shakespeare's *Romeo and Juliet*, Juliet famously declares "What's in a name? That which we call a rose / By any other name would smell as sweet." While that sentiment is a fine one for star-crossed lovers attempting to slip the bonds of feuding families, in the world of science and conservation names do matter.

A.f. farinosa © Valdir Hobus

This is particularly so when it comes to defining that fundamental unit of biology - the species. While there are varying definitions of what exactly constitutes a species, most scientists understand the term to mean a collection of individuals that represents a distinct evolutionary unit capable of interbreeding.

The science of taxonomy is devoted to the characterization and naming of species. It is an ancient discipline that goes back at least as far as Aristotle, but it has particular relevance when it comes to the very modern discipline of conservation biology.

That is because our framework for protecting biodiversity is based on the concept of species—we devote effort and funds towards the protection of species that are judged to be threatened, and less to species that are not. But what about cases where our taxonomy is not correct? In particular, what about cases in which there are several different unrecognized species lumped together as a single species, perhaps because they look physically similar? And what if one of these so-called 'cryptic species' was rare and threatened and the other was common? Practically speaking, in these cases conservation efforts are limited because what we recognized as a species, the aggregate of two or more cryptic species, does not appear to be threatened.

In such cases we run a very real risk of allowing the extinction of a species simply because we failed to recognize it as such. A recent study we conducted with a graduate student, Ted Wenner, suggests we may be in danger of just such a scenario with the familiar parrot species *Amazona farinosa*, the Mealy Amazon.

The Mealy Amazon is a widespread rainforest species distributed from the Caribbean side of southern Mexico through Central America, northern South America and across the Amazon basin, with a spatially separated population in the highly fragmented Atlantic forests of southern Brazil.

Taxonomists have long recognized several different subspecies based on physical appearances, including *A. f. guatemalae* in southern Mexico and Guatemala, *A .f. virenticeps* from Honduras through western Panama, *A. f. inornata* in eastern Panama and northwestern South America, *A. f. chapmani* in the eastern foothills of the Andes mountains, and *A. f. farinosa* in the Amazon Basin and the Atlantic forest of Brazil.

At various times different taxonomic authorities have advocated recognizing at least some of these subspecies as full species, but most recent taxonomies treated them as a single extensive species. Before our work, there had been no comprehensive study of what the underlying genetic variation might tell us about the evolutionary distinctiveness of different subspecies.

Unlike many of its Amazon parrot cousins, which are listed on the IUCN Red List as Vulnerable or Endangered due to pressures including habitat loss and capture for the pet trade, the Mealy Amazon is listed as a species of Least Concern.

This listing, though, is due primarily to the observation that populations in South America are doing well. In Central America, where both habitat loss and poaching for the pet trade are more extensive, populations are in much worse shape. And critically, this listing is based on the assumption that populations extending from Mexico to southern Brazil are all members of the same species.

In 2011, the World Parrot Trust asked us to test this assumption using modern genetic data. The request was prompted by a study of evolutionary relationships in the genus *Amazona* previously performed by Mike Russello, in which he included four of the subspecies of the Mealy Amazon, two from Central America and two from South America (Russello and Amato, 2004 *Molecular Phylogenetics and Evolution*).

He found a deep genetic split between the Central and South America subspecies. In fact, this split was as deep as that found between other long-recognized species of *Amazona*. This result clearly hinted that the two groups of subspecies should be considered different species. But there were limitations to the study. One was that Mike had included just a single representative of each of 4 subspecies, so it was difficult to judge whether the variation seen between different subspecies might also be detected within a given subspecies.

Furthermore, the samples he used were collected from birds living in captivity with uncertain origins. These limitations left sufficient uncertainty about the species status that taxonomists and the IUCN were unwilling to declare the two groups of subspecies as distinct species, worthy of separate conservation status.

In designing our new study, we determined that vouchered specimens were a critical necessity. Vouchered specimens are tissues saved from birds collected in the wild by natural history museums that are linked to the skins of the birds preserved in the museum collections. Such specimens are the gold standard for studies such as ours because of the extensive data about locality and bird condition that accompany them.

Additionally, the presence of a well-preserved skin in a collection allows future scientists to cross-check the genetic information from the samples with the physical data available from the skin itself.

The three of us contacted numerous museum collections around the world requesting samples of Mealy Amazons; in all, seven different institutions sent us small bits of tissue from

Fig 1. The map below illustrates the distributions of the currently recognized subspecies of *Amazona farinosa*. The network to the right of the map illustrates genetic distances between different subspecies, with the length of the branches proportional to the number of mutational steps between samples (up to 6 changes, and illustrated with numbers thereafter).

Photo Credits:
A. f. virenticeps © Jason Rothmeyer
A. f. guatemalae © JD Gilardi
A. f. inornata © Steve Cushing
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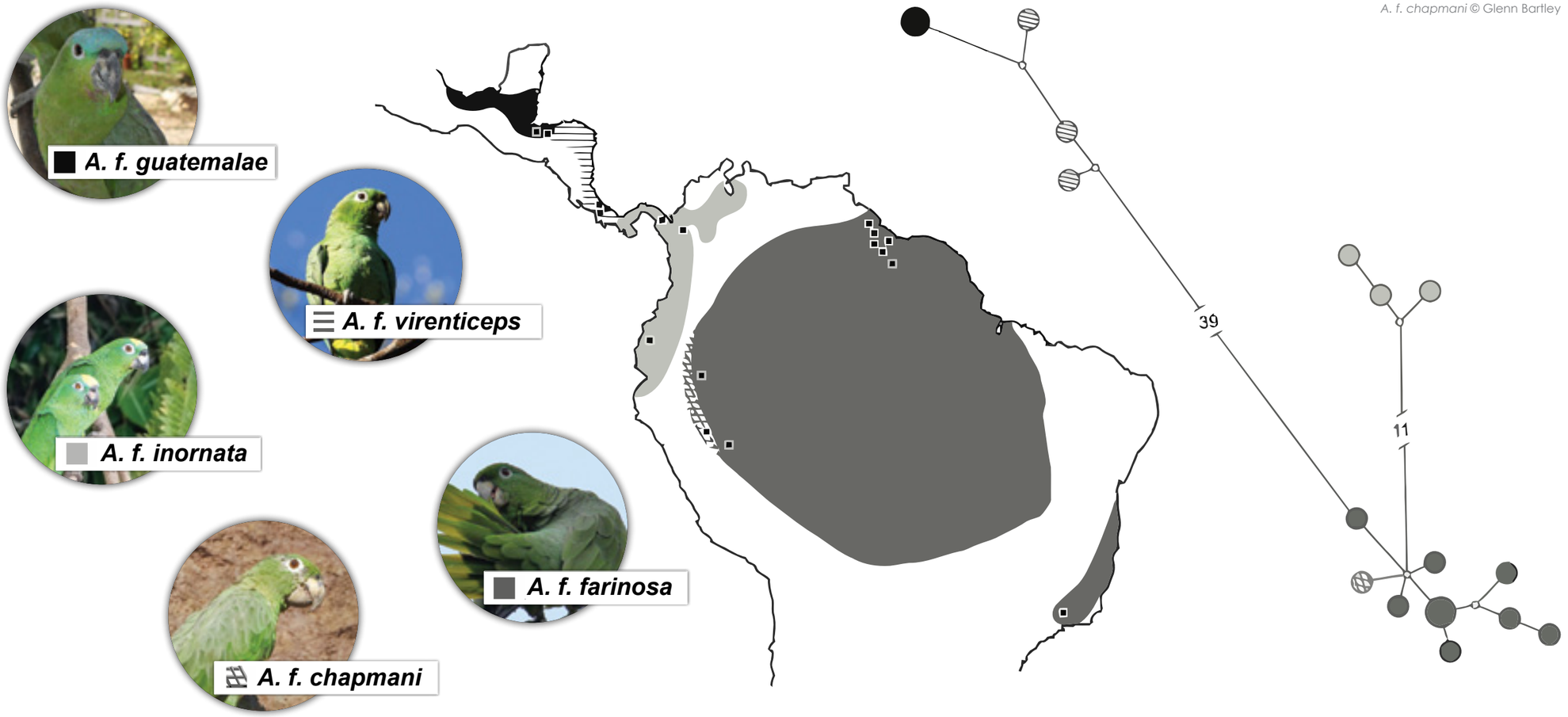
A. f. chapmani © Glenn Bartley



vouchered specimens they had collected. Importantly, these samples spanned the range of the species, and included multiple representatives from each subspecies.

With samples in hand, Ted got to work in the lab. He quickly extracted DNA from the tissue and amplified sequences from a variety of genes representing both the nuclear and mitochondrial genomes. We then conducted several different analyses to characterize the genetic similarities and differences among these samples. The results provided striking confirmation of Mike's earlier results. We found large genetic distances between the two Central American subspecies on one hand and the three South American subspecies on the other (Fig 1).

These differences were as great as those found between many pairs of well-established bird species. Within South America, we found consistent differences between the *inornata* subspecies in the northwest and the *farinosa* subspecies in central South America, although these differences were smaller than those found between Central and South American subspecies.

In contrast, we found no consistent differences among representatives of the *chapmani* subspecies and the neighboring *farinosa* subspecies, nor did we detect any differences between the Amazon basin and Atlantic Forest populations of *farinosa*. Finally, we did not detect any consistent differences between the two Central American subspecies. The results are now published in the journal *Conservation Genetics* (Wenner, Russello and Wright, 2012, *Conservation Genetics*).

How did these genetic differences among subspecies come about? To address this question, we estimated a general timeframe within which the Central and South American lineages diverged using a molecular clock. This approach takes advantage of the general observation that the number of genetic differences between two groups is related to the amount of time since they have genetically separated.

In the case of the Mealy Amazon, a rough estimate based on the number of genetic differences and a standard molecular clock suggests that the Central American and South American lineages split from a common ancestor about 1.8 to 2.7 million years ago, after the formation of the Isthmus of Panama about 3.5 million years ago. This timing suggests a scenario in which the common ancestral population lived in South America, and the lineage that eventually led to the Central America subspecies split off and dispersed up the Isthmus of Panama.

The South American population later experienced a further split between populations in the central Amazonian basin and the northwestern part of the continent, perhaps influenced by the

Mealy Amazon

Amazona farinosa

The Mealy Amazon occurs in tropical Central America and South America. It frequents humid to semi-humid forest and plantations. Because the Mealy Amazon has been heavily trapped for the wild bird trade and shot for food in French Guiana there is evidence of a decline in the population.

Did You Know? The name Mealy comes from the bird's peculiar colouration, giving it a "dusty" or "powdered" appearance.

About the authors

Tim Wright is an Associate Professor at New Mexico State University. Research in the Wright Lab focuses on the function and evolution of vocal communication in parrots.

Michael Russello is an Associate Professor in the Department of Biology at the University of British Columbia, Okanagan Campus. Research in the Russello Lab focuses on the population and conservation genomics of fish and wildlife species, including Neotropical parrots.

A. f. virenticeps © Luis Guzman

ongoing rise of the Andes mountains. These results emphasize the important fact that evolution, and the different species that result from it, is an ongoing process rather than something that only happened eons ago.

And what do these genetic results tell us about cryptic diversity within the single, currently recognized species of Mealy Amazon? They suggest that, at minimum, this single species should be treated as two distinct species, one in Central America and one in South America and Panama.

An argument might also be made for the *inornata* and *farinosa* subspecies within South America to be each given full species status, but this case is not quite as strong given the smaller genetic distances observed between these two subspecies.

In any case, it is the distinction between Central and South American populations that has the most important conservation implications, given the intense pressures that are currently experienced by the Central American populations. Recognition of these populations as their own species would immediately trigger a reconsideration of conservation status to better reflect the threats they are facing.

So, what's in a name? Sadly, for Romeo and Juliet, names meant tragedy. Unlike Romeo and Juliet, though, this story of a name may have a happy ending. The taxonomic group responsible for naming Central and South American birds has asked us to submit a proposal for reclassifying the Mealy Amazon.

A request to the IUCN for reconsideration of conservation status would follow. Although these proposals require careful consideration, there is a good chance that, with continued attention, the new genetic data we have collected will eventually lead to the naming of a new species of Amazon parrot in Central America.

More importantly, the elevated taxonomic status would offer important opportunities for more accurately recognizing the threats faced by this new proposed species of conservation significance.

Dutch Airforce Squadron *Polly Parrot*

By Desi Milpacher

GREY PARROT INSPIRATION, COMPANION FOR AIR FORCE PILOTS: Decades ago, in the middle of WWII a separate squadron was formed within the Dutch Royal Air Force. This unit, no. 322, went on to fight the rest of the battle and several wars since. Along the way the group adopted a number of Grey Parrots as mascots – and the birds became as integral to the unit's operations as the planes they flew. The latest Polly parrot – 'Polly Grey V' was adopted in 1989. A picture of the beloved crewmember graces each of the squadron's planes. *(Images © Netherlands Air Force.)*

THE Rescue

By Eric Horstman

Great Green Macaw © Steve Milpacher

The Pro-Bosque Foundation has worked since 1993 to protect and restore the Cerro Blanco Protected Forest, a reserve of nearly 15,000 acres of Ecuadorian dry forest near the country's largest city, Guayaquil.

It was here in a small area of the reserve that a drama began to unfold with one of the rarest macaws in the world.

Adult keeping a watchful eye over the nest site. Photo © Eric Horstman

A Great Green Macaw nest (*A.a. guayaquilensis*) was discovered in the Northwest part of the forest one early July. The nest was in the trunk of a dying Pigio tree (*Cavanillesia platanifolia*) in an area dominated by other trees of the same species. The open nest cavity was located about 65 feet from the ground in the smooth, grey trunk of the tree with its characteristic concentric rings. The bark of the Pigio tree is similar to balsa wood in consistency and previously Great Greens have been seen using their beaks and claws to excavate the nest cavities.

The male macaw would return to the nest tree three or four times a day to feed the female, who would briefly peek out of the top of the nest cavity to receive the regurgitated food.

On October 31st the chick's head was first seen at the entrance and all seemed to point to an uneventful but ultimately successful nesting. The female began to leave the chick for extended periods of time accompanying the male in the search for food.

However, during the entire nesting period, a series of incidents occurred with a number of nesting birds of prey. From July 10th to August 23rd a pair of Grey Hawks (*Buteo nitidus*) nested in a large Pigio about 130 feet from the macaws. The hawks would often fly near the macaw nest and even attacked the male macaw when it tried to return to the nest, delivering blows to its body. On the night of August 23rd an unknown predator attacked the nest and the hawks subsequently moved away from the area.

This was only the beginning of the skirmish with the macaws: starting on July 14th, a pair of Collared Forest-Falcons (*Micrastur semitorquatus*) was observed near the macaw nest. Things began to heat up when on August 6th the female falcon entered the macaw nest cavity, but was driven off by the male. From then on through the month of August the falcon attacks became more frequent, with the birds diving on the macaws and striking them with their beaks. They also would grapple with the macaws, clutching them in their talons and breaking off the attack as they fluttered towards the ground. By November 6th the forest falcons were preventing the macaws from approaching their nest and would pursue them sometimes more than 600 feet from the nest.

The juvenile macaw chick became desperate for food during two days of the falcon's siege and was attacked more than twenty times at the entrance to the nest.

Finally, things came to a head when on November 8th the juvenile macaw was literally dragged from the nest by the pair of falcons. One of our researchers who was observing the macaws from a nearby blind rushed to the rescue of the fledgling as the two falcons attacked it at the base of the nest. Fortunately the macaw chick was unscathed and after a couple of days at my house being fed walnuts, papaya and other fruits, the chick was taken back up to the nest site.

The juvenile was placed back in the nest. In a scene right out of Hollywood, the parent birds flew over and the juvenile took off flying after them. The three macaws were seen flying together in the general area for several days afterwards. The forest falcons then quickly occupied the cavity for their own nest.

Eric Horstman is the Executive Director of Fundacion Pro-Bosque, Equador.

The Pro-Bosque Foundation (Fundacion Pro-Bosque) began its Guayaquil Macaw Conservation Program in 1993 and has continued until present. Their work has focused on locating and protecting active nest sites to prevent nest robbing of chicks for the national pet trade, protection of macaws and other wildlife species through anti-poaching patrols by park guards, and habitat restoration with native tree species used as both food and nesting trees for Great Green Macaws.

The Collared Forest-Falcon is found in a range of tropical forested habitats from Central Mexico to Southern Brazil, and feeds on a variety of small mammals and birds. It is the largest species in the genus *Micrastur*. Photo © Alan Huett | Creative Commons 2.0

Nest site in the trunk of a dying Pigio tree *(Cavanillesia platanifolia)* in the Cerro Blanco Protected Forest. Photo © Eric Horstman

Macaw parents and juvenile making their way safely away from the nest site and the aggressive falcons. Photo © Eric Horstman

Cayman's **Invasive** Monk Parakeet

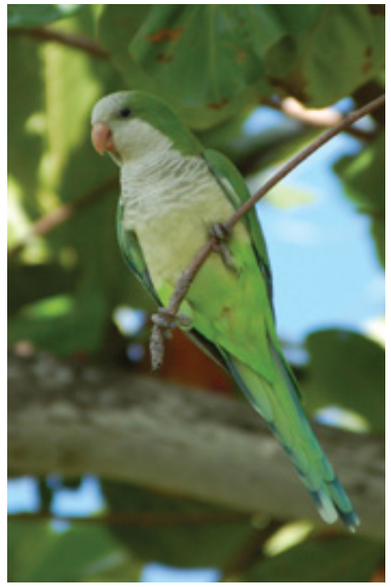
Article and Photos © **Kristan D. Godbeer**

My first contact with Monk Parakeets, also known as Quaker Parakeets (*Myiopsitta monachus*), was during the early 1990s while working as a zoo aviculturist in the United Kingdom. I was charged with the care of a small colony. Though not as visually striking as many other parrots, their unusual behaviour certainly made up for it. They proved to be very active, raucous birds, and once settled began to build their typical colonial nest, from green twigs. Until then, I had only read about their nests in Forshaw's Parrots of the World.

During this time Monk Parakeets were readily available within the pet trade. Their relatively low price, easy maintenance, and habit of building a colonial nest made them popular aviary subjects, so much so that several colour mutations were developed. Their fidelity to their nest led to some collections free-flying these birds, as they were confident they would return home each evening to roost. I remember seeing these birds at liberty in the UK during the 1990s.

Little did I realize at the time that, thousands of miles from their native lands these wonderfully interesting birds would become a problem in multiple locations around the world. Furthermore, I would not have supposed that two decades later I would undertake a status assessment and control program of an introduced population in the Caribbean.

Monk Parakeets were first introduced to Grand Cayman in 1987 and by 1999 ten known feral colonies were established. In 2004 Hurricane Ivan devastated the island and reduced much of its avifauna. The Monk Parakeets however, 'weathered the storm'. With the population believed to be re-establishing itself, it was important to assess its status with a view to possibly controlling the population. Three years after Hurricane Ivan I arrived on Grand Cayman as one of three post-graduate students from the University of Exeter's Centre for Ecology and Conservation. My objective was to assess the status of the feral Monk Parakeet population for the Cayman Islands Government, Department of Environment (DoE).



Feral Monk Parakeet, Grand Cayman

During the first day on the island I visited a popular dive resort and immediately heard the parakeets' calls emanating from a stand of tall Coconut Palms *(Cocos nucifera)*. You generally hear these birds long before spotting them. A large colonial nest could be clearly seen, but upon closer inspection other smaller nests were detected in between the coconuts. At that point I drew a breath of relief. Their calls were a clear give-away. With meticulousness, patience and determination, I was confident I would find them.

Despite the fact they were introduced, I have to admit I enjoyed watching wild Monk Parakeets for the first time. I began to see the appeal of having these attractive birds flying around one's home. They were shrieking noisily from their lofty abodes, busily toing and froing between nests and neighbourhood gardens with sprigs of green twigs, much the same as the captive birds all those years ago. They took great care of their nests, removing any invading vines, and continuing with structural improvements. Interestingly, they created overhanging nest entrances, and surrounded these with thorny twigs, presumably to deter predators.

Why the concern?

There were a number of reasons for worry. The birds' presence had proven problematic for the local power company, because they often nested atop electricity poles, causing power outages. A great concern for the DoE was their potential to exacerbate human-wildlife conflict and the detrimental effects this could have on native fauna, in particular the endemic Cayman Parrot *(Amazona leucocephala caymanensis)*. It did not take a great leap of imagination to envisage flocks of Monk Parakeets descending on crops. This would do nothing to help heal the Cayman Parrot's already tarnished reputation within agricultural circles. An increased occurrence of crop-raiding could provoke farmers into taking increased action against the birds, including the endemic parrot which also impacts crops. Illegal shooting and trapping of native parrots by farmers has long been an issue of conservation concern *(see PsittaScene, May 2010)*.

Additionally, over time, the introduction of exotic species can change public perception of their natural environment. Consequently, we see a 'shifting baseline'; people begin to identify with the introduced fauna and flora that they experience on a daily basis. Examples of this phenomenon are already evident on Grand Cayman. For instance, the Australian pine (*Casuarina equisetifolia*) is a popular exotic ornamental shade tree which is rapidly spreading along the coastline, replacing the native flora in many areas. Generations have grown up with these trees and have learned to appreciate their form, motivating requests for grand old specimens to be protected.

Similarly, many people like having Monk Parakeets busily building nests in their garden, or in the grounds of their hotel. They certainly add a touch of the exotic in urban George Town. The DoE feared that the presence of such a charismatic species would become normalized, and possibly welcomed. Tour guides were already pointing to Monk Parakeets and saying they were Cayman Parrots, and tourists often mistook them for native endemic parrots. It was thought prudent to remove the parakeets before familiarity encouraged misplaced affection for the species, as well as public opposition to a control program.

An extensive survey of the island

A comprehensive census of urban and agricultural areas of Grand Cayman was undertaken, covering 94km^2, along 669km of roads, tracks and trails, over a period of 30 days. Also the islands' forest, shrubland and mangrove were systematically reviewed during an island wide avian survey.

An endemic Cayman Parrot perched in a Mango tree. Parrots eating mangoes already cause conflict with farmers.

Grand Cayman Island is located in the Western Caribbean, and is the sole home to the Cayman Parrot (*Amazona leucocephala caymanensis*) shown left, whose survival is threatened due to habitat loss, natural disasters and illegal trapping and shooting.

Monk Parakeet nest sites: they generally prefer to nest in Coconut Palms (top left), but will also nest on electricity poles (top right), often causing power outages. Monk Parakeets feed on mango crops, potentially escalating human-wildlife conflict with farmers (lower left). Typical tropical dry forest habitat of Grand Cayman, slowly being destroyed as urbanization expands (lower right).

Upon discovery, birds were counted at their nests. Even though we had recorded the location of the colonies, birds were breeding, dispersing, and beginning new colonies. We required a method of quickly locating new nesting areas when spotting what appeared to be an errant bird. Radio tracking provided an informative tool. A number of parakeets were captured, fitted with radio transmitters, then released.

The transmitters worked rather well, and we were able to track the birds throughout the streets, gardens and parks of George Town. We discovered that the parakeets had fairly small home ranges, and left their nest to forage in the surrounding area not more than 1.2 km from their nest. We used this information to develop a search technique.

When a foraging parakeet was observed outside of a known nesting area, a radial sweep of the surrounding area invariably turned up a new nest. We found that the birds flew a fairly direct route between their nests and foraging grounds; therefore, the search could be narrowed still further. This was further facilitated by our knowledge of their nest site preferences.

The parakeet population had spread throughout the urban and agricultural areas of Grand Cayman, with the highest densities in the South-east. They displayed a strict preference for man-modified habitat: urban and agricultural areas. In these areas the canopy is open, more savannah like, as opposed to Cayman's natural dense vegetation. Deforestation of the island appears to be facilitating the parakeet invasion, while conversely decreasing the natural habitat of the endemic Cayman Parrots. Unlike most parrots, Monk Parakeets are not reliant on cavities for nesting.

They build their nests in tall natural or man-made structures. On Grand Cayman, Coconut and Royal palms *(Roystonea regia)* are favoured landscaping staples. Their planting usually follows forest/mangrove clearance and development, providing nesting platforms for the parakeets. Where palms are not available, telephone or electricity poles will suffice.

As with the endemic parrot, the Monk Parakeets displayed a generalist feeding behaviour, feeding on abundant seasonal fruits, flowers, shoots and seeds. As we anticipated, they were also observed plundering Mango crops *(Mangifera indica)*, and this was also confirmed by local farmers. This potentially inciting behaviour provided an impetus to implement controls of the population.

Capture

Upon completion of my graduate program I became employed by the DoE, tasked with monitoring and protecting the Cayman Islands terrestrial species, including its endemic parrots. Therefore, heading the control program also fell to me. Strict laws left us with no choice but to capture the birds at their nest.

The parakeets' habit of returning to their nests each evening to roost was an obvious Achillies' heel. Hence, we opted to capture them at their nests during the night. How were we going to get to them fifty feet or so above the ground? For many nights our small team travelled throughout the island, with a 50 foot articulating boom in tow. This was no easy task, as the equipment had to be set up and deployed in darkness, often on roadsides. Despite the logistics required to get the equipment in place with some stealth, capturing the birds was relatively easy. During the approach the nets were quietly extended and placed gently over the nest entrances. Once close to the nest, the nets were shaken, inducing the birds to bolt and fly into the net.

Nests in power lines however, were a particularly ominous safety hazard. Fortunately we were able to strike a mutually beneficial partnership with the local utility company. One of their senior engineers was also an aviculturist. He was qualified to work at close proximity to power lines. His team joined us when occasion required, and assisted us in removing the birds.

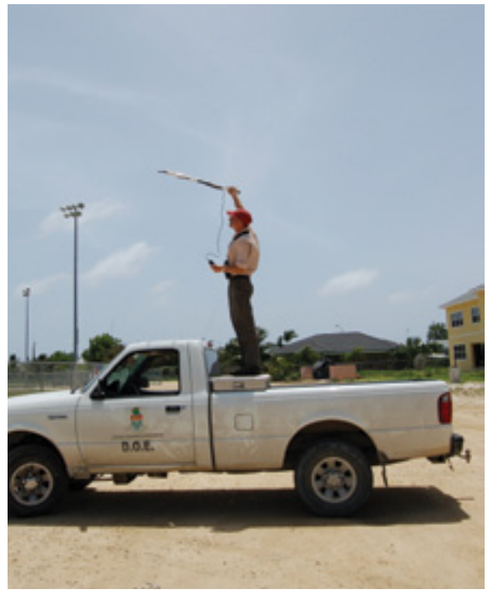
Our control methods were successful in reducing the Monk Parakeet by 86% within a year. Unfortunately Cayman's fiscal challenges of the last few years, plus unforeseen changes in staffing and circumstances at the DoE, prevented further control of this species. Consequently, the population is believed to be rising. Plans are being discussed in order to re-establish the control program, and to see it through to eradication. The initial control program was well timed. We were not met with any strong public opposition. Perhaps there would have been, if the birds were allowed to become more widespread, and a more established part of the local avifauna. The same applies today. If a control program is to go smoothly, it must happen before the species is embedded.

In part, the invasive species problem was due to the lack of sufficient legislation regarding the importation of flora and fauna. Despite good marine laws with enforcement capability, Cayman was lagging behind on adequate legal protection of its terrestrial environment. After many years of negotiation and debate, the Cayman Islands National Conservation Law was passed in late 2013, but has yet to be enacted. A positive action, as it will be illegal to willfully release exotic species without proper authorisation, and there will also be tighter controls on the importation of exotic species. A reduction in the introduction of potentially invasive species should liberate funding resources for other pressing conservation efforts. Furthermore, if the new law slows deforestation and increases preservation, natural forests will be maintained for the Cayman Parrots and further dispersal of Monk Parakeets prevented.

The Monk Parakeet invasion of the Cayman Islands is just one example that drives home the importance of import controls and responsible aviculture. It also highlights the consequences an exotic species introduction may have, whether intentionally or by accident. Like many people, I am fond of Monk Parakeets. Initially it felt counterintuitive removing them from the wild, especially for someone who prefers to study and conserve parrots. In this case however, I feel that it has been a positive conservation effort towards preserving Cayman's faunal integrity, and of course its endemic parrots. Furthermore, I have discovered a great deal more about Monk Parakeets, and appreciate the adaptability and tenacity of these remarkable little birds.

Kristan D. Godbeer is a Wildlife Biologist, currently living in Chandler, Arizona, USA.

Radio tracking parakeets in the George Town area of Grand Cayman (left). An aerial photograph revealing deforestation and urbanization of Grand Cayman (right).



Thoughts on population control...

Do parrot welfare and parrot conservation sometimes collide? The fact that some parrot species can live and even thrive outside of their natural range is well known, and feral parrots now occur in many places around the world. Most are recently introduced species that are extremely adaptable and tend to be found in urbanized areas.

Often within the first couple of decades, and sometimes less, their populations become established and grow to considerable numbers. What we do not know, and in many cases cannot predict, is where these populations are going to be 50 or 100 years from now in terms of numbers of birds, where they will live, and what they will eat.

When they do expand, their populations may create at least three serious issues: encounters with native birds, conflicts with agriculture, and problems with introduced disease. The first can be a conservation concern, particularly since native birds which nest in cavities are often limited by nest site availability due to logging and feral animals. The second issue – conflict with agriculture – is more likely to be a welfare concern because when economics are involved, wildlife often suffers as a result. A third problem – introduced diseases – can threaten local wildlife populations as well as humans.

Are there easy answers to questions like this? Unfortunately not. Each situation is unique and requires careful consideration, balancing wildlife conservation and welfare concerns with those of local people and their needs. Government biologists like those in the Cayman Islands must grapple with these difficult decisions often – rarely is the solution black and white, and choices often have to be made among a number of undesirable options.

The Cane Toad *(Rhinella marina)* was introduced to Australia in the 1930s as an agricultural pest control measure. With no natural predators it is now threatening native species from the Caribbean to Australia.

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The Cotton Whitefly (*Bemisia tabaci*) has spread globally due to transport of infested plant products. Once established, it quickly spreads and causes destruction to crops around the world through disease and feeding habits.

© Stephen Ausmus | Wikimedia Commons

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The Bush Currant (*Miconia calvescens*) - also known as "green cancer of Tahiti" and "purple plague of Hawaii" - is considered one of the most destructive threats to insular tropical rain forest habitats in its introduced range.

© Birdphotos.com | Creative Commons 3.0

The grey squirrel *(Sciurus carolinensis)* has made its way from the USA to the UK, Ireland, Italy and South Africa, and poses a significant threat to other species through competition for food sources and the spread of disease.

Source: Global Invasive Species Database

Paradise FOUND

Article and photos by Jamie Gilardi

It's not every day that rumors about endangered parrots turn out to be true, especially rumors of new and healthy populations. Much to our pleasant surprise, that's exactly what happened on a small island in Central America recently.

For years we've heard that a unique subspecies of Yellow-naped Amazon *(Amazona auropalliata caribaea)* had become extremely rare on the resort island of Roatan in Honduras' Bay Islands - the typical sad story of parrots and people failing to share a forested home. But more recently, we also heard that a privately owned island in the Bay Island area still held a population of a few hundred of these endangered Amazons.

As luck would have it, one of our partners in the reintroduction of Scarlet Macaws to Copan, Honduras - Lloyd Davidson - had spent many years on Roatan. Through a connection of Lloyd's we were able visit this island to determine if the rumors of hundreds of Amazons there were at all accurate. As a private island which is strictly off limits to curious visitors, we hoped the extremely high level of security set up by the island's owners to ward off and potentially prosecute all poachers attempting to access the island, would aid the recovery of the remaining Yellow-napes. Optimistic perhaps, but the potential for a well-protected place for this species made me all the more keen to see the place with my own eyes to see if such stories could possibly be true.

My past experiences with wild Yellow-napes weren't so rosy. In the early 1990's, I worked on a UC Davis field project in the south of Guatemala where we studied a reasonably large - if heavily poached - population of Yellow-naped Amazons ... members of the same subspecies which once ranged along the Pacific coast of Central America from southern Mexico to Costa Rica. We learned a lot about these birds, their foraging habits, breeding and roosting behaviour. But despite our efforts to protect the nests from poachers – including armed guards – nearly every nest was poached, each year. As superlative talkers, sadly, Yellow-napes and their close relatives remain highly sought after for domestic and international markets.

That study and shocking level of poaching we found lead directly to Cathy Toft, Tim Wright and more than 20 other researchers combining their parrot poaching data into a seminal

scientific publication on the devastating effects of poaching on parrots in the New World. Later, that paper inspired a similar analysis by the RSPB and others for the rest of the world, and the two publications combined provided a sound scientific basis for our bird trade campaign leading directly to the EU's comprehensive ban on wild bird imports - a silver lining 15 years in the making. Back in Guatemala however, the relief from international trading pressures came too late, and on a recent visit to the area 20 years after my first visit, I was saddened to find no remaining Yellow-napes, and local aviculturist Scott McNight confirmed that they are now all but extinct in the region.

Alexander Alvarado and Lloyd Davidson searching the islands for Yellow-napes

So when Lloyd and I arrived on this alluring island by boat midday this past March, we were hopeful but not at all certain what we'd find. After a friendly welcome by island managers, we set out on an all terrain vehicle to have our first look around. Parrot-wise, things were pretty quiet. But like parrots everywhere, the middle of the day is of course 'siesta' time. On the other hand, the numbers of two non-feathered endemic and endangered species were encouraging: the Bay Islands version of the Roatan spiny-tailed iguana and the 'huatusa' or Roatan agouti - a rabbit sized rodent. As both are large and quite edible, they've been harvested for centuries or more, and both are almost entirely gone from the neighboring islands. Yet this island was teeming with them and we literally had to dodge them as they casually basked or hopped along the gravel roads. Their abundance was of course a welcome indicator of the health of the islands' forests, and within a few hours, we were rewarded with an evening Amazon show which we couldn't possibly have anticipated.

That first evening and then in the subsequent dawns and dusks we encountered impressive numbers of parrots in every part of the island we had time to visit - literally hundreds of them everywhere. Generally there were pairs and small flocks flying to and from nearly every direction, and even when we couldn't see birds flying above the canopy, we could hear a cacophony of their calls.

On our second trip to the island this past September which included expert Honduran birder Alexander Alvarado, we were able to confirm that the high densities of Amazons we saw back in April were consistent throughout the island. That is, we didn't just visit a few parrot hot spots on our first visit, the entire island turned out to be a hot spot! This reinforced our impression that this private island is currently home to well over a thousand Yellow-naped Amazons making it far and away the healthiest and highest density population of this species anywhere in the world.

Putting aside special cases like clay licks in South America, 'bais' or forest clearings in central Africa, and nomadic/flocking species like Budgerigars in Australia, the uniformly concentrated number of Amazons on this one island are extreme and forced me to rethink what's possible – indeed what's maybe "normal" in terms of pre-exploitation numbers – for parrot densities elsewhere. It made me wonder if accounts of early explorers like Columbus himself weren't exaggerations after all – even the ones describing parrots 'darkening the skies.' Could it be that for some populations which we think are relatively healthy today are in fact a mere shadow of their former, far greater abundance?

Then on our last evening of the second visit, we encountered something else which was unexpected after a short boat ride to a smaller uninhabited island nearby. This island retains some intact tropical forest cover and possibly parrots, and answering the parrot question was of course the purpose of this side trip. After a hike around the shore of a large mangrove-lined lagoon, we made our way to a high clearing next to the most extensive patch of forest. From there we could easily see most of the island, the western half of the private island (with all the parrots), and the end of the larger and mostly developed Bay Islands.

Around the time we were about to give up and head back, much to our delight, a group of ten Yellow-napes quickly and noisily assembled as the sun was setting. They then did something we'd never seen before. As a tight knit group, they started flying above the forest, slowly gaining elevation flying straight into the strong trade winds and attempting to head for the private island with loads of their brethren! After a good fifteen minutes of sustained flight in which they gained elevation but made no progress toward their goal, they finally gave up and descended to the forest hundreds of feet below. To us it appeared that they had every intent to roost on the upwind island, but simply couldn't overcome the powerful headwinds.

As we headed back to the boat, we saw the same ten birds repeat the behaviour, flying up well above the canopy and in the direction of the larger island, but again pair-by-pair, they gave up and dropped back into the forest presumably to spend the night. Locals claim that they sometimes see parrots flying across the 1.5 km channel between the islands, and though we didn't quite witness this directly, what we did see suggested that that was indeed the plan.

Inter-island movements of these birds is of course a critical issue for their long term survival. It might mean that as the population continues to grow on the private island and eventually reaching the island's carrying capacity, the population can expand to neighboring, inhabited islands. But it might also mean that birds which would otherwise be safe on the well-protected private island, are susceptible to poaching on the less protected islands. Certainly, we need to know more about these movements, if they're seasonal, which birds are involved (breeders or non-breeders), how far they travel, and what fate awaits them there. Luckily, a portion of Roatan has been set aside as a National Park and contains some excellent foraging and possibly breeding habitat for the Amazons.

The prospects for all nature conservation on this private paradise are bright indeed, especially if the current protection regime remains in place. It seems likely that the Amazons will continue to grow in number along with the forest's recovery from historic cattle grazing. And protection for the other endemic species bodes well for the resident crocodiles, agoutis, iguanas and many others. This past year, the island managers launched a successful "head start" program for endangered hawksbill sea turtles which produced hundreds of hatchlings for later release.

Of course, well protected offshore islands have also played important roles in the recovery of many endangered species, particularly in New Zealand where birds like the Critically Endangered Kakapo and others find refuge to this day. If approached carefully, this private island could play such a role for select birds, mammals and reptiles which are so highly threatened on the mainland – possibly including the national bird of Honduras, the Scarlet Macaw *(Ara macao)* – thereby providing a uniquely safe haven and ultimately a source of animals for reintroductions in protected areas throughout their former range.

For now, however, we're just delighted to report that there is at least one place in the world where the much beloved Yellow-nape is alive and well … and yes, even abundant!

Hawksbill sea turtle hatchlings, the outstanding result of the first year breeding program launched by island managers.

Bay Islands' version of the Roatan spiny-tailed iguana.

The 'huatusa' or Roatan agouti - a rabbit sized rodent hunted to extinction on neighboring islands.

A TALE OF TOO BITES

Article and Photos by **Bev Penny**

Zazu, the Goffin's Cockatoo

from the Community

This issue's contributor, Bev Penny, is a Director with the Parrot Resource Centre, and the founder of the Crazy Bird Ladies, an online group formed with the sole purpose of raising money to help birds in crisis.

A published author and student of Applied Behaviour Analysis, she is also the creator of *LivingWithParrots.com*, where she strives to guide caregivers through the challenges of sharing their homes with parrots.

BITING IS NOT – and should never be – an acceptable behaviour, because it means you are pushing your bird too far.

The best predictor of future behaviour is past consequence. This means that if your bird has learned that biting works to get him what he wants, he will use it again when placed in a situation where choice has been taken away. If you take the time to learn the skills necessary to implement behaviour change, biting will become a thing of the past.

Despite two previous bites, I still allow my 18 year old female Goffin Zazu (*Cacatua goffini*) to get close to my face all the time. I allow Zazu to be on my shoulder because I trust her. Her good behaviour has earned her "shoulder privileges". The following pictures may say the opposite, but believe me when I say that I am responsible for both bites. Bird behaviour is a very, very subtle thing and we miss a lot of the cues that tell us to back off.

The communication of parrots is different from a dog or a cat, or any other animal for that matter. A dog growls to let us know he is uncomfortable or does not want to do something we've requested. We listen to that. Your bird's communication that he does not want to do something may be as subtle as the slight movement forward of some feathers. We need to train ourselves to watch for these subtle behaviours, to listen, and to respect what our birds are telling us.

Biting and screaming are two of the biggest reasons that parrots are rehomed. I will be the first to admit that being on the receiving end of a bird bite is no fun. Those beaks can inflict some serious damage. However, the behaviour I would have to question even more so than the bite, is my own behaviour.

Figure 1 shows the face bite with the lovely 3-point cockatoo beak marks.

Before I began studying Applied Behaviour Analysis (ABA), my interpretation of the face bite would have been entirely different than the true interpretation or post-ABA interpretation. My first interpretation would have let me off the hook because we humans don't like to admit that occasionally we do really dumb things.

The night Zazu flew at me and bit my face was much like any other night with one exception – I was chewing gum and blowing bubbles. I don't usually chew gum so this was new to Zazu also.

Interpretation of Zazu's behaviour pre-ABA:

I was sitting in the chair with Zazu and she just flew into my face and bit me – for no reason. She must be "hormonal" or aggressive, etc. etc. etc. I don't understand it; she attacked me. One minute I was sitting with her and the next she flew at my face and bit me on the chin. I've been so good to her, blah, blah, blah. I buy her all kinds of toys and special foods, why would she do this to me? She is a bad, bad bird!

Interpretation of Zazu's behaviour post-ABA:

First of all, this event was never about Zazu's behaviour but about mine. She appeared extremely interested in the bubbles I was blowing but every time she went to grab the bubble gum, I sucked it back into my mouth. I did this a couple of times before Zazu decided she really, really wanted that gum and she went for it. As she lunged to grab the bubble, I sucked it into my mouth and unfortunately for me, my chin was in the way and I took a pretty bad face bite as you can see from the picture in Figure 1. That's what happens when you tease a cockatoo. Human error is to blame for this bite, not Zazu.

Let's do a Functional Analysis:

Antecedent: Bev teases Zazu
Behaviour: Zazu bites Bev's face
Consequence: Bev is in pain

Lesson learned: Bev is an idiot for teasing Zazu in the first place. I knew she wanted that gum. Owning up to our own problem behaviour is 99.9% of the solution.

Possible Future Behaviour:
Bev will not tease Zazu anymore so as to prevent future bites.

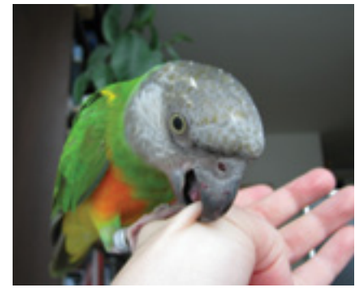
Figure 2 shows a bite that punctured the digital artery of my middle finger.

Interpretation of Zazu's behaviour pre-ABA:

I was getting ready to go to work but noticed that there was some string hanging down from Zazu's perch. I was in a rush but decided to cut it so she wouldn't get her toes caught while I was gone. I put my hand in the cage and bang, Zazu bit my hand. She punctured the digital artery of my middle finger. The attack came out of nowhere. She must have been mad at me for something or maybe she was hormonal, etc, etc. etc. I could have come up with lots of reasons why Zazu bit me and all would have blamed Zazu for the bite.

Interpretation of Zazu's behaviour post-ABA:

I was getting ready to go to work and I was in a rush. I noticed some string hanging from Zazu's perch so I decided to cut the string so she wouldn't get a toe caught in it. Zazu was in the cage. Leaving her there was my first big mistake. Taking her out while I cut the string would have been the perfect antecedent change. So I took a pair of scissors (unfamiliar item to Zazu) and put them right in front of her to cut the string and she defended herself against the scissors. Unfortunately, my hand was holding them and I got bitten. Again, human error is to blame for this bite, not Zazu.



Possible Future Behaviour:
Remove Zazu from her cage and cut the string.

In almost all cases where someone has talked about being bitten, it's the bird that gets the blame. Birds do not bite without a reason. Behaviour has function and it does not happen in a vacuum. So the reason for the first bite was because Zazu was after the bubble gum and the reason for the second bite is she was protecting herself from a foreign invader. She was in her house (cage) and I came at her with an object (scissors) that she was unfamiliar with. If this was someone entering your home, you would do the same thing to protect yourself. The lesson I learned that morning was do not ever put foreign objects into Zazu's cage while Zazu is in the cage. It was a painful lesson. All I had to do was remove Zazu for a minute, cut the string and put her back.

The thing is, we are human and we all make mistakes, but why do we blame our birds for our mistakes? We must take responsibility for our behaviour and acknowledge our role in the development of problem behaviours in our parrots. By following the tenets of Applied Behaviour Analysis we can then decrease or eliminate unwanted behaviours and increase wanted behaviours. And that, my fellow parrot lovers, is a wondrous thing!

UPDATE


© Davide de Guz

Wildlife Dealer Arrested

The World Parrot Trust has been supporting in-country work to halt trade in wild-caught parrots. The effort is ongoing and is plagued with problems from country to country – the most pervasive being corruption.

Confiscations

In late January of 2013 a confiscation of over two hundred birds was seized in Guinea, Africa. It included a hundred Senegal Parrots, a dozen Timneh Parrots, parakeets and cockatiels, Red-headed Lovebirds, and other birds. The French organization WCP (Wara Conservation Project), which is based in Conakry to fight wildlife crime and corruption and part of the EAGLE network (Eco Activists for Governance and Law Enforcement) led the confiscation and cared for the birds, with the help of WPT-supported veterinarian Dr. Davide de Guz. WPT also provided funds for food, veterinary care, a keeper, and a pre-release aviary at Tamara Island, Guinea where most were eventually released.

Notorious history

Following the confiscation and release, a number of arrests were made – most notably a major wildlife dealer in the area, Ousmane Diallo, the individual responsible for the above shipment. Diallo, who has admitted to having been involved in the traffic of more than 500 chimpanzees, lions, panthers, hyenas and thousands of birds, had been a fugitive since January. He was sentenced in absentia to one year in prison in mid-2013 while he was on the run. He was found and arrested, and exercised his right to oppose the court decision. A second trial was held and he was sentenced to 6 months imprisonment and $17,000 USD in damages. After a number of months in custody he was illegally released in late November by a deputy Attorney General to the Court of Appeal who had signed an order without the consent of his superior. Diallo fled, and continued to evade authorities until 2014 when he was finally arrested a second time during an operation staged by National Central Bureau (NCB) Interpol Conakry and WCP. The case against Diallo began on April 7th in the Court of Appeal.

This series of incidents illustrates the difficulties of working to halt the wildlife trade in many parrot range countries. Corruption and collusion in criminal activities often permeates to the highest levels of government. This impedes and undermines the efforts to continue the pressure against those who trade in wildlife.

NEWS

Sugar Gliders Predating Swift Parrots

The Swift Parrot (*Lathamus discolor)*, in SE Australia also known as the Swift-flying lorikeet, is a highly endangered endemic. It is similar to lories and lorikeets in that it has a brushed tongue as they do, feeding on nectar, sugary insect secretions, insect larvae, fruit, berries, and seeds.

The Swift Parrot had shared its environment with other animals, mostly harmless, until recently. A new study has shown that among the many threats that risk the species' survival there is one more: the seemingly benign Sugar Glider *(Petaurus breviceps)*. Recent research has shown the small introduced mammal predating the adult parrots – usually the female – in an opportunistic shift for the omnivorous species, which also feeds on nectar, acacia seeds, bird eggs, pollen, fungi and native fruits.

Why the change? Deforestation may be the answer. The Swift Parrot breeds on the Tasmanian mainland, where forest loss is occurring at a rapid rate. Research found that where there was less forest cover, Sugar Glider predation of nests was high. The reverse was true with higher mature forest cover. Investigators agree that more examination of the relationships between deforestation, Swift Parrots and Sugar Gliders was needed, in order to better plan for the preservation of the Swift Parrot.

Source: *Sugar Gliders are eating Swift Parrots – But What's to Blame?* Dejan Stojanovic, Australian National University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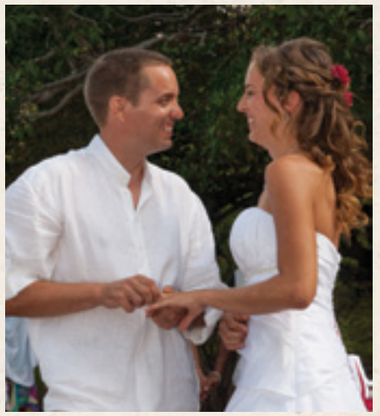
EVENTS

Parrot Lover's Cruise 2014

Western Caribbean
November 2-9, 2014

Departing from Galveston Texas, you'll visit the Isle of Roatan, Honduras, Belize City, and Cozumel Mexico. On-board seminars and special excusions make this a spectacular cruise for all parrot enthusiasts! Speakers include Dr. James Morrisey, Natural Encounters behaviour and training expert Cassie Malina and Echo's own Dr. Sam Williams.

Book your seat!
parrotloverscruise.com



A Match Made in Bonaire

Congratulations go to (WPT Partner) Echo's Sam Williams and Dutch-born Sarah de Groot for their recent wedding! The two were married on March 20th, the Vernal Equinox, with one of their fantastic dogs surprising the wedding guests by running in with the rings when Sam "forgot" them. Sarah has been a steadfast supporter of Sam and Echo, and helps out with everything from looking after the Echo team, to swinging a pick axe for projects, to participating in parrot counts. The eco-friendly wedding was complete with solar power and parrots flying over during the ceremony. Best wishes, both of you!

PSITTASCENE ONLINE

Access past issues online at:
psittascene.org

OPPORTUNITIES

Volunteer Field Assistants

The Ara Project / Proyecto Ara, Costa Rica

Do you love working with parrots? If so, Ara needs your help! Join them for a rewarding experience working with large macaws in Costa Rica. At the Ara Project's breeding and release center you will see wildlife, visit a beautiful country, learn about a different culture, and meet new people. Best of all, you will be making a difference for Endangered macaws!

Visit their website to learn more:
thearaproject.org

Volunteer Field Assistants

Blue-throated Macaw Conservation Center, Beni Department, Bolivia

The Blue-throated Macaw Conservation Center needs full-time volunteer field assistants for a reintroduction project to benefit the Critically Endangered Blue-throated Macaw *(Ara glaucogularis)* in the lowland savanna of Moxos, Bolivia.

More details online:
tinyurl.com/bluevol

General Volunteers

Tasikoki Wildlife Rescue Centre Sulawesi, Indonesia

Would you like to volunteer to help the Indonesian parrots caught in the illegal trade? The Tasikoki Wildlife Rescue Centre encourages confiscations and works for the rehabilitation and release of confiscated animals.

Volunteers with experience in parrots and other exotic birds would be particularly appreciated, but all are welcome! Opportunities for virtual volunteering are often available as well.

More details or to apply:
tasikoki.org/volunteer

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