PROMOTING EXCELLENCE
IN PARROT CONSERVATION
AVICULTURE AND WELFARE

World Parrot Trust
in action

Vol. 13 No. 2 May 2001

Psitta scene

Palm Cockatoo

Echo Parakeet

Golden Conure Fund

Great Green Macaw Fund

Grey Parrots

psittacine (sit'ă sîn) belonging or allied to the parrots; parrot-like

Psitta scene

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World Parrot Trust

Cover Picture
Once again we are indebted to Roland and Julia Seitre for an outstanding photo on our front cover. We had thought there were simply no good shots of Palm Cockatoos in the wild, but the Seitres had it covered!

THE WPT 12

Filling in the gaps

The breeding biology of Palm Cockatoos on Cape York Peninsula

by STEVE MURPHY

As I sat in the tropical savanna of far northern Queensland, sweat beading on my brow, I knew it wouldn't be long before the show would start. Even though I'd been working in the area since mid-morning, I hadn't yet heard so much as a peep. But then, right on time, something went whooshing by above my head. Something that sounded like someone narrowly missing me with a big leafy branch. And then, there in front of me, on the rim of a hollow in a huge paperbark, landed a magnificent male Palm Cockatoo. I had been watching this particular tree hollow for the past week in an attempt to piece together the behaviour leading up to a breeding attempt. The male sat there whistling, wing spreading and stomping his left foot. Shortly after, a female arrived and the pair bowed their heads to one another, presented their brilliant scarlet cheek patches and synchronised their calls in an impressive courtship display. Within the next few minutes, several more males arrived in the area and all started trying to out-do one another with more ear-splitting calling. This was obviously too much for the resident male who promptly attempted to round up all his rivals. One clash with a particularly stubborn interloper ended in a cloud of black feathers as the two males tumbled to the ground. Once the last of the intruders was seen off, the resident rejoined his female and got down to business again.

Although I had seen male-male conflict before, this particular afternoon turned out to be one of the most impressive of these displays that I have ever seen. And yet despite the amount of activity that went on, it could be another year or so before an egg appeared in the nest hollow. These are the sort of encounters that reinforce my suspicions that, for Palm Cockatoos, breeding involves an extremely long lead up time of complex courtship displays and never-ending vigilance for potential rivals. Even then, after all the lead-up time, it seems that the odds are stacked against them....

Our knowledge about Palm Cockatoos in the wild has suffered from a large and enigmatic void for a long time. Even the most basic biological information, vital to our understanding and future management of these threatened birds, is surprisingly poor. Take the question of breeding season. In the past nobody could agree on exactly when these cockatoos breed in the wild. Some thought that young usually left the nest by the beginning of the wet season (around December). By contrast, others suggested that breeding actually started with the first rains of the wet season. I think that this lack of concordance is due to a small number of observations of what can be a protracted breeding season. This arises from a long incubation and nestling period (about four months) and the ability of pairs to lay again after a failed attempt. I have found that Palm Cockatoos are loosely seasonal breeders, with most laying occurring around August, but because individuals can re-attempt after nest failure, breeding can trickle on throughout the year. This accounts for the fact that I have detected breeding in every month of the year on Cape York.

Like breeding seasonality, the preferred breeding habitat of these cockatoos was also debated. Some thought that breeding

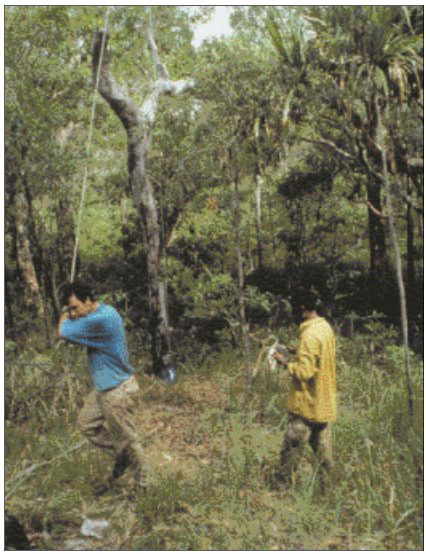
A pair of Palm Cockatoos in full display. *Photo: Roland Seitre*

Could scrub pythons be responsible for Palm Cockatoo nest failures? Here, a large and bulging python is caught inside a Sulphur-crested Cockatoo nest. Photo: Steve Murphy

Bamaga chick. Even at this quite advanced age Palm Cockatoo chicks can be predated. Photo: Steve Murphy

occurred in the rainforest while birds foraged in the savanna, while others suggested that it was the exact opposite. The truth is, that on Cape York, breeding occurs in the savanna as well as the rainforest, although most of the breeding that has been detected has been in the savanna. This more reflects observer bias (i.e. nests are easier to find in the more open savanna), although nest hollows superficially seem to be more common in the savanna.

As for the type of tree hollows Palm Cockatoo prefer, those that have openings that face upwards seem to be the norm. But don't be fooled into thinking that large bird equals a large nesting hollow. While it is true that some pairs don't like to feel cramped and crowded while incubating and brooding (which is understandable with incubating shifts that can exceed ten hours!), others obviously prefer that cosy feeling. In fact, the record for smallest internal dimensions of an active nest so far is a remarkably snug 18x20cm! A tight squeeze for a bird that can weigh up to 1kg, is 56cm long and has a wingspan of over 1m. Compare this to the largest active nest found so far, a spacious 80x35cm, and you begin to get some idea of the variation. Equally varied is the depth of the nest from the rim of the hollow to the nesting platform, which can be anything from 43cm to over 2m.



Steve and Paul Igag (par rot researcher from Papua New Guinea) prepare to climb an active nest tree. Photo: Sarah Legge

The nesting platform is very interesting, as Palm Cockatoos are the only parrots that go to such extraordinary lengths to ensure that their chicks and eggs remain high and dry during the long wet season of tropical Australia. Throughout the year, pairs maintain several hollows in their territory and build platforms of splintered twigs which can be anything from a few centimetres to well over two metres deep. Given the huge amount of effort that goes into preparing each site, there should be little wonder why males don't tolerate each other near their nest hollows. It may have also been the mechanism that drove the evolution of the flamboyant wing spreading and drumming displays for which these Cockatoos are renowned.

Perhaps the most alarming statistic to emerge from the study to date is the high rate of nest failure. Over the past two breeding seasons I have monitored 21 active nests, and of these only 4 have successfully fledged young cockatoos. Eggs and chicks seem equally likely to go missing, and even quite advanced chicks have mysteriously vanished. The culprits are likely to be large varanid lizards, like Gould's monitors *Varanus gouldii*, and scrub pythons *Morelia amethistina*. This is especially likely given the fate of some of the local Eclectus Parrot and Sulphur-crested Cockatoo chicks. For example, in one Eclectus nest that researchers Rob Heinsohn and Sarah Legge were monitoring, a disastrous exchange of hollow occupancy occurred. One day, instead of finding two healthy and quite advanced chicks, the hollow was full of coiled up and contented serpent. Several days later the snake moved on, only to leave a couple of large scats which contained the leg bands of the nestlings. Sure proof if ever there was any doubt!

Although this gives me some idea of what might be happening to all those Palm Cockatoo chicks and eggs, I have a sneaking suspicion that sometimes it can be a lot more sinister. A couple of times I have found eggs crushed but uneaten in the nest. This seems unlikely behaviour for a predator. Maybe rival pairs are responsible? Birds fight tooth and nail (or beak and claw?) to chase off rivals during courtship. But what would happen if rivals visited an active nest and they couldn't be chased off?

More and more the gaps in our understanding of Palm Cockatoo biology are being filled. It's challenging work and it's far from over. There are still a few big questions that need to be answered, like how often do pairs attempt to breed, and what really is happening to all those missing chicks and eggs? I'm also trying to find out what defines good breeding habitat, and then there's the question of whether birds move between the different sub-populations in Australia, and .....well, let's just say that I'd better get back to it...

THE WPT 12

More Echo chicks fledge from released females

By LANCE WOOLAVER

The wild season (2000-2001) is winding down here very quickly but we're starting up the releases for the year. We've had a very different season from last year. We were able to solve all of the problems we encountered last season but were faced with new challenges as well. None of the chicks this year were lost to nestfly or tropicbirds as we were able to treat all the nests with insecticide and to make tropicbird proof doors for the Echo cavities. These were simple plywood doors on hinges which we could lift up to access the chicks with small holes which Echoes could use but tropicbirds could not.

There was a very pronounced shortage of food in the wild this year. Most of the pairs either did not attempt to breed or were unable to care for even one chick. As a result, only seven chicks will fledge from wild nests this season. Wild pairs which easily produced two fat, healthy chicks in 1999–2000 were unable to keep even a single chick going this year. It was a bit frustrating to see and made for some tough decisions when we had to pull the last chick from a nest to take down to the aviaries. The food shortage also had an effect on the overall health of chicks even as they came out of the eggs. Many chicks were weak on the first day of hatch and lay in the palm of one's hand without begging or even moving much. We ended up taking 12 chicks down to the aviaries. Because of the weakened state coming from the eggs, most of these were rescues rather than the 'downsizing' of chicks from the wild to the aviaries before they show any signs of ill health. At present though there is not much we can do with wild nests when there is a food shortage and this is the major limiting factor on Echoes. Although it may seem a big problem in individual years I think we will still be able to keep our yearly production at 20 birds by accepting that in poor years we will be releasing rescued chicks while in good food years (like last year) we can put most of them out in wild nests.

If we get one good food year in every 3 or 4 we will still be moving ahead. We need to also be planting fast growing native species which we know Echoes love such as 'bois de lait' and palm trees, all of which will provide fruit in large quantities within 15 to 20 years. It is quite realistic to plan to have small one hectare plots scattered throughout the gorges which are cleared of guava and full of Echo-preferred fruiting trees. Brise Fer itself is a good example of this but there is no reason why we could not have a number of other smaller areas throughout the Echo breeding areas. What a season like this does remind us of is that Echoes are not out of the woods yet but still have a couple of large obstacles left to get past, lack of good quality food during some years being by far and away the most important.

We also lost two nests to rats this season. Rat populations cycle as well with every 4 years or so being ridiculously high. Rat indices collected on the Macchabe ridge are the second highest recorded in the world (next to the Seychelles I think). We protect our nest sites using a ring of smooth PVC plastic which is stapled tightly around the trunks of the nest tree. We also place a bucket of Brodificoum rat poison near each site 100 metres or so away but are not sure how effective this is. It definitely kills rats so helps somewhat but is not 100% effective. A more intensive poison grid is suggested but would be logistically impossible for us to maintain at more than one or two nest sites. We feel that the plastic rings are close to 100% effective if the tree is smooth-trunked and isolated from the surrounding canopy. We were not able to protect either of the nest sites lost to rats this season, due to the surrounding trees being too numerous and the interlocking canopy. We also lost a single nest site to a monkey. The cavity was shallow and a monkey reached in, grabbed a one day old chick and two eggs, and injured the female. We have seen her since the incident but she was badly injured. What we would like to do for next season, and this is perfectly realistic, is have all of our nest sites permanently proofed against monkeys, rats (as much as possible) and tropicbirds.

Pete Haverson has been fantastic at solving these logistical problems and has been a great team leader this season. Pete leads by example and is one of the most conscientious people I have met so it has been an absolute pleasure to work with him again. These are our challenges but we have already come a long way this season toward solving them and have had some pretty exciting advancements in the process.

The great success story of this season is that 4 of our release females were seen prospecting our new artificial nest boxes. Two of these decided not to breed,

Txiki in her artificial nest box.

Lance at an artificial nest site.

Pablo.

Gabriella at a feeding station.

probably due to a combination of their young age and lack of food in the wild. Two females did breed, Txiki and Gabriella. Txiki did a great job of feeding her chick but began plucking the chick when it was 22 days old. The chick was taken down to the aviaries in Black River and is now back up at Plaine Lievre as part of the first release group. It looks great. We think Txiki did this because of her background as a captive raised bird coupled with her individual reaction to the stress of our visiting to check the chick.

Of the four release females which have now raised fledglings, Gabriella, Danni, Coral and Txiki, Txiki is the only one to have reacted in this way. The other three females were exemplary parents. We have now had four chicks fledge successfully to the wild from our release birds which is a great success at this early stage of our release programme. A fifth chick is due to fledge from the pair of Coral and Sanchez (both release birds) in two weeks.

Although our wild birds have found it very difficult to raise chicks this season due to lack of wild food, Gabriella and Zip (a wild male) have been able to fledge two beautiful healthy chicks. This is because both Gabriella and her mate are using a supplementary feeding hopper placed next to their nest tree. Gabriella has been the real star of the release programme. Zip was the first wild bird to learn from the release birds to use a feeding hopper. He learned from Gabriella when they were both juvenile birds. Gabriella is the first of the release birds to fledge a chick (Pippin in 1997), and is now the first Echo to use and fledge chicks from an artificial nest box. She is pointing the way to the future for us as we attempt to have more and more birds using nest boxes and supplementary feeding hoppers. If birds use food hoppers they will be able to fledge healthy chicks in years when the wild birds cannot. So although the wild birds have not done as well as in the last two seasons, the release birds are doing well and everything is moving according to Carl Jones' vision. Which is how I've always viewed things. Carl provides the vision and guidance and we make it happen.

We are trying to improve our release techniques this season, by releasing the birds at a younger age. Eventually we would like to release them at the age when they would naturally fledge, around 60 days, as they can then spend the important learning period in the wild rather than in the aviary in Black River. We are still a long way from this goal but have started this season by bringing birds up to the release site before they have finished weaning.

Contact during feeding minimised

David Rodda (New Zealand DOC) and Anne Morris (Chester Zoo) have done a great job of raising the 12 chicks down at the aviaries, especially as many of them were already in poor condition when removed from wild nests. They have tried to make them less tame but this has proven very difficult. Until new facilities are built which will allow for chicks to be raised in more natural cavity-like surroundings where contact during feeding is minimised, it is unlikely that we will be able to change this. The chicks are being taken out of the handraising room at a much younger age and placed in an enclosure which adjoins the large flight where they are then able to socialise with the adult birds. We hope this has gone a long way towards producing more independent, mentally healthy birds. They have been brought up to 'camp' (our base up in the forest) much younger as well. The current group of 5 birds ranged from 56 days to 93 days when brought up to the forest. We are planning to release the older birds as soon as they have weaned, keeping the younger birds inside so the group will be staggered in the release. The birds are ready to go out once they are trained to use feeding hoppers and to respond to a whistle for food.

Trapping

The releases are being done by myself, Anne Morris and Diane Casimir (the Canadian New Noah who has experience with the Calgary Zoo in captive breeding and reintroductions of Vancouver island marmot and Whooping Crane). We continue to trap for cats, rats and mongoose around the release site. We even had a monkey raiding fruit from underneath the release aviary yesterday, a serious threat to the release birds but we caught him within an hour of baiting one of the cat traps with apple and banana.

A basic summary of this season's numbers are as follows:

Six of the 13 young females (one and two year olds) prospected but did not nest.

Three of the release females prospected but did not lay. Two of the release females have died, one went missing and the other died from being eggbound. Three of the release females nested, two in artificial nest boxes.

Twelve chicks from six nests were taken down to the aviaries. Eleven were showing signs of malnutrition while one was being plucked by the female Txiki, a captive raised release female. All the chicks had to be taken from two nests. Last season one nest easily produced two fat, healthy fledglings but this year could not care for even one. No chicks were transferred between wild nests.

Hatchability was high with 22 of 26 eggs (85%) hatching. Only four of the 22 chicks died, two from rats and two from starvation. Two eggs and one chick were taken from a nest by a monkey.

Twelve nest sites were managed, three of these were release females. Six of these failed. Two nests failed to rat predation, one to monkey predation. Two other nest sites failed as all the chicks had to be removed due to malnutrition. The final nest failed when the chick was removed to the aviaries after the female started to pluck her chick.

Seven chicks are due to fledge in the wild from six nests. Three of these are from release females. Four have already fledged.

The only pair which was able to fledge two chicks was a release female, Gabriella, and her wild male, both of which used a supplementary food hopper next to their artificial nest site.

Twelve birds are scheduled for release, ten of these are from wild stock, two were captive bred in the aviaries.

Lack of food in the wild was by far and away the biggest problem this season with most pairs failing to breed and those that did attempt to nest found it very difficult or impossible to raise healthy chicks. The success of Gabriella and her male in raising two chicks is therefore significant as they relied heavily on supplementary food.

THE WPT 12

Golden Conure Fund

Tucurí dam caused devastation

We have long been concerned about this Brazilian species which has suffered from tremendous loss of its rainforest habitat and being a highly sought after bird for trade. We decided to set up a WPT 'Golden Conure Fund', see August 2000 *PsittaScene*. We contacted Dr. Carlos Yamashita, Brazil's leading parrot biologist, who has conducted previous research into the Golden Conure. He is anxious to do more to help its preservation. We published a detailed proposal from Dr. Charles Munn III in the August 1999 *PsittaScene*. The Golden Conure Fund is based in our WPT-USA office, and Glenn Reynolds (8338 Terra Grande Ave., Springfield VA 22153, USA, fax: 703 644 6415, email: goldenconurefund@breedersblend.com) will be pleased to hear from anyone who has a special interest in this species, or wishes to contribute.

Glenn and his two businesses are consuming all of the overhead expenses of this fund, so we can guarantee that 100% of any contributions will go directly to the field study. We suggest that everyone who holds this species should consider sending $20 or £15 for each bird to our fund. (Paradise Park, UK have five and have already sent $100 to get the fund started.) WPT-USA has matched the first single donation of $1,000 from WPT member Susanne Shrader. The outstanding wildlife artist Grant Hacking has provided a painting of the Golden Conure, which will be auctioned off later to benefit the fund. He let us produce 250 limited edition prints of the painting. Cyd Riley of Fire Fly T-shirts has created a beautiful Golden Conure T-shirt. Golden Conure prints and the T-shirts are available through our US and UK administrators.

Golden Conure Print, Contact WPT UK or WPT USA for purchase information.

Glenn Reynolds writes:

The initial study being done by Dr. Yamashita started on January 1, 2000. Its purpose was to locate and map active nesting sites. Thirteen geographically dispersed sites were located in the first two months of the study. The native inhabitants living in the area of the study were found to be heavily infected with malaria, which has somewhat slowed the study and increased the risks of Dr. Yamashita's work. Yamashita has now started on the second phase of the study. He is trapping adult birds for genetic blood testing. These tests are revealing that most of the birds trapped from various nesting sites are closely related. Yamashita has stated that the degree of relatedness is much closer than would usually be expected in a geographically diverse group such as the one that he has tested. This could indicate real trouble for this species if action is not taken immediately. Interestingly, he is also finding what seems to be an unrelated 'helper' within the family clan. More testing and observation needs to be done to fully confirm and understand this phenomenon. Although we have had a field study team frequenting the area, Yamashita states that trapping for the illicit market continues to be serious. He doesn't seem to think that their presence has had any effect on the numbers of Golden Conures being trapped.

The construction of the Tucurí dam, which lasted from 1975 to about 1984, dispersed as many as 35,000 forest colonists from their homes into surrounding territories. This displacement rapidly stimulated the deforestation in the area that we are now studying. It was estimated that 294 species of indigenous birds were also dispersed, including Hyacinth, Red and Green, Red-bellied, and Scarlet Macaws, Hawk-headed Parrots, Vulturine Parrots, Chestnut-fronted, White-eyed, Peach-fronted, Painted, Golden-winged, and Golden Conures, Green-rumped, and Blue-winged Parrotlets, Canary-winged Parakeets, Tui Parakeets, White-bellied Caiques, Short-tailed Parrots, Blue-headed, and Dusky Pionus, the Festive, Orange-winged, Mealy, and Kawall's Amazons, and Harpy Eagles. Many mammals were also displaced, which consisted of giant and river otters, jaguars, manatees, and at least seven species of primates. The resulting reservoir flooded 888 square miles of rainforest. Sixteen hundred islands were formed by existing hilltops once the area was flooded, which have been heavily deforested.

The land was not properly cleared prior to the completion of the dam. The decomposing of the rainforest below the water's surface has resulted in the release of methane gases and carbon dioxide, which has spoiled the areas surrounding the reservoir. The quality of the water is almost unusable and has seeped into the ground water tainting wells for miles around.

Deforested for settlement

The decomposition also resulted in the surface of the water being covered with aquatic macrophytes immediately after the initial flooding. Aquatic macrophytes are known as a primary medium for mosquitoes. The area has been so infested with mosquitoes for more than a decade that it has become mostly uninhabitable for humans or animals. Because of this, the natives who had been displaced into these surrounding areas were once again forced to pick up and move resulting in further deforestation. Additional re-settlement took place in areas, which often proved to be inappropriate. These areas were deforested for settlement and then later abandoned.

These people have never recovered; financially or socially, and are willing to do most anything to afford survival. Some of them have become parrot trappers to support their families. They and others readily lease or sell their property to logging companies, who either selectively log the land, or completely clear it to the ground after logging by burning the remaining trees and brush. The areas are burned to 'clean' the land for planting. Selective logging destroys nesting sites or leaves them unprotected increasing the chances for trappers; furthermore, unprotected nesting trees are easily blown over during high winds.

Along the Transamazon highway the re-settlement process consumed 100,675 hectares. Bordering another road that parallels the right side of the reservoir another 311,025 hectares were deforested for relocation. Just these two areas of re-settlement alone have depleted 411,700 hectares or 1,017,310 acres of rainforest. Seventy one percent of the total deforestation occurring in Brazil since 1977 has taken place in the northeastern regions where the Golden Conures reside. All but thirteen percent of that seventy one percent has occurred since 1988.

There are a lot of human factors behind the decline of the Golden Conures, which need to be addressed if we are going to save this species. From the research that I have done on the area and the correspondences that I have had with Dr. Yamashita it seems that the building of the Tucurí dam has had a ripple effect on the entire region. Displacement, poverty, poor quality of drinking water and disease has broken the local people. One apparent solution would be to stimulate the economy in the area. Yamashita and Dr. Charles Munn have both proposed setting up eco-tourism in this region, which in my opinion would be of obvious benefit. Eco-tourism should result in pumping revenue into the area and possibly provide employment for some of the local people. Moreover, a further increase of presence in the region may discourage some of the illicit trapping.

$20,000 raised for field study

As of March 2001 we have raised over $20,000 for the field study and the future acquisition of pertinent tracts of land. We have sent an initial $10,000 to Yamashita and his team to fund the study. It is estimated that much more will be required to save this species from extinction. Since we are the financiers of the Golden Conure Fund, the fund-page http://www.breedersblend.com/goldenconurefund.html will provide you with the most up-to-date and accurate information that is available on this species.

THE WPT 12

Buffon's Macaw news and funding update

Olivier Chassot and Guisselle Monge.
Photo: Rosemary Low

by **ROSEMARY LOW**

In the February issue we highlighted the urgent need to raise funds to save the Buffon's or Great Green Macaw. It is suffering a dramatic and rapid decline throughout its small range in Central America (and is already almost extinct in Ecuador). Since my last report a sad event has occurred which underlines the need to make the breeding locality of this species in the northern part of Costa Rica into a national park.

There are now only approximately 35 pairs breeding in Costa Rica. In February, the nest tree of one of these pairs was illegally cut down. Guisselle Monge, the field director of the Great Green Macaw project, has reported the incident to MINAE (the environment agency) officials, and awaits their response. But whatever action is taken, that precious nest site has gone forever. There are relatively few trees large enough and with a suitable cavity to form good nests for this macaw which is almost as large as a Hyacinthine. Furthermore, every nest studied was revealing vital information which would aid in the macaw's survival.

Although the researchers have discovered new nests each season, the number of active nests has fluctuated from 17 in 1998, to 18 in 1999 and fell to only 12 in 2000. Two nest trees were illegally cut down in 1999, one in 2000 - and already one this year. Nine of the 52 nests found since 1994 have been felled, despite the fact that they have been plainly marked as nest sites and specifically protected by legal decree. It is urgent to find a more effective means of halting the cutting of almendro trees, since obviously the legal decree is ineffective.

It is interesting (also sad) to look at the history of one particular nest site. It was located in an almendro tree, north-east of the town of Ojoche. The forest surrounding the tree was gradually degraded until the area underwent massive clearing. Although the tree is still standing, it is in the middle of a plantation of melina (*Gmelina arborea*) trees. This exotic tree is very fast-growing and used for paper production. An American-owned company has large areas under melina cultivation in Costa Rica.

In 1995 three young fledged from this tree, in 1996 two and in 1997 only one. Since 1998 the almendro has not been visited by macaws.

This is probably because now that the area is a melina plantation, they would be unable to find food there.

Guisselle and her assistant Olivier spend hours in the field. Formerly volunteers were helping but the project ran so low in funds that the two or three volunteers assisting in gathering information and taking part in conservation education, have recently been missing. (They are not paid but their food and lodgings is paid for). Hopefully, as we raise the much-needed funds, volunteers will again play their important part in the project. The presence of researchers is vital. It has reduced to nil the number of macaws shot by local people. In addition to gathering field data and educating local people about the macaw's protection, Guisselle and Olivier work to raise awareness of the importance of a national park.

Funds raised at shows

Every one who reads this can do something to help, no matter how modest their contribution. After all, small sums add up to significant amounts. At Newark show in February I organised a sale table of unwanted items and ran a raffle. Although the sum raised was not enormous, £157, that sum will actually pay Guisselle and Olivier's wages for one week - so modest is their salary. At Stafford show in March, I raised a further £78.26 with a raffle and donations. In between other small sums were collected. Adding the contents of the collecting box of Markham Pet Stores (Doncaster), the total raised was £265.16. This sum has been paid into WPT's Great Green Macaw fund. I would like to thank the traders at the two shows who generously donated raffle prizes.

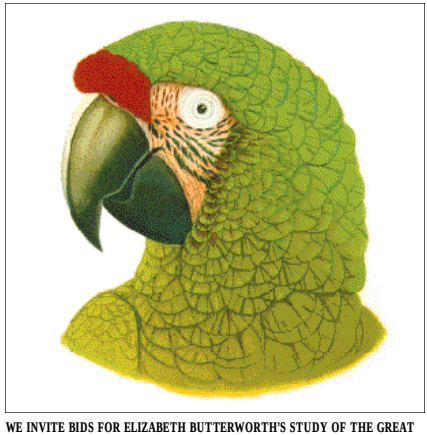
Famous artist donates picture

We are delighted to announce that Elizabeth Butterworth, the world-famous artist, has donated a head study of a Buffon's Macaw in aid of the fund. Mounted (but not framed), this picture measures 35cm (14in) x 39cm (15in). It provides a unique opportunity to obtain this artist's work at an affordable price. Please send your bid to The World Parrot Trust. We will feature the painting again in the August issue and bids will close on October 1. The highest offer will secure the painting.

Elizabeth Butterworth's work hangs in some of the world's most important galleries, including the Metropolitan Museum in New York. She is held in such esteem that, in 1996, the *Telegraph Magazine* described her as being 'mentioned in the same breath as the great natural history painters Audubon and Durer'.

She is portrait painter to the parrots. Her work is unique and immediately recognisable. It has been admired over the years at a number of exhibitions, mainly in London and overseas. Liz formerly kept Scarlet Macaws and has had a life-long interest in these birds. This culminated in the production of the most ambitious fine art folio on any subject anywhere in the world. Entitled *Macaws*, it was unique: 12 life size (elephant folio) plates produced using a technique known as *la poupée*. This is seldom practised due to the enormous time and expense involved. It was a modern art publishing landmark. Liz's generosity towards the Great Green Macaw Fund is greatly appreciated.

WPT-USA has already donated a substantial sum to this project, and other donations have already been transferred to the USA to be forwarded to the project in Costa Rica



WE INVITE BIDS FOR ELIZABETH BUTTERWORTH'S STUDY OF THE GREAT GREEN (BUFFON'S) MACAW *Photo: Rosemary Low*

THE WPT 12

Grey Parrots of the Congo Basin Forest

by DIANA L. MAY, Department of Psychology, University of Arizona

It is 06:00 on an April day in the Congo Basin. Elephants move out of a swampy clearing and into a dark wet forest. A flock of 1,000 delicate bright green pigeons suddenly shifts direction in agile synchrony, creating a soft boom. Parrots, grey with bright crimson tails, trickle into the clearing - singles, pairs, triads, quads and they announce their arrival with whistles, squawks and screeches.

Two parrots stand in the mud, tethered to a wooden stake. Yesterday, they were free and strong. Today, they are enslaved and weak. Tethered to the branch above, four parrots perch and call. They, unlike their friends below, are accustomed to the routine. Behind a structure of carefully-placed palm fronds, four men hide and wait.

An hour passes. From a tall dead tree 100 meters away comes a chorus of whistles, chirps, buzzes, coos, squeaks, squawks and screeches. *Les perroquets gris*, with tails the colour of *noix de palme* (one of their favourite foods), begin to emerge from the tall tree and settle themselves atop shorter trees. After all have arrived, the hungriest and bravest descend into the swamp, seeking their salad and soil.

Then the cycle begins. Several Greys leave the ground and return to the trees and, in relay-like fashion, 20-30 descend to the ground and take their place. Then, again, others return to the trees and are replaced again. The cycle continues until suddenly, a net engulfs them, now a muddied, flopping, ear-shattering mass of beak and wing.

Men appear from their palm cache. By grasping only wing tips, they pluck the *koukourous* from the net and stuff them into cages. Inside, parrots succumb to a crouched posture dictated by meagre cage dimensions.

Poachers carry cages back to their camp where the parrots will remain for up to 40 days, eating only corn rations and water. Some will die tonight. Some will weaken or sicken and die, days or weeks later. Only the healthiest and strongest will survive until the arduous three day journey to the city. Then more will perish en route to their ultimate targeted destination.

This is one way that Grey Parrots enter the international pet trade and eventually come to live in other parts of the world including Europe, North America and Asia.

Grey Parrots flocking to enjoy the swamp. *Photo: Diana May*

As a student in Dr. Irene Pepperberg's lab, I consider how our research has positively impacted the world's population of Grey Parrots. Dr. Pepperberg's numerous talks at avicultural club meetings and extensive media coverage of the lab has had an educational effect: It has improved the relationships between "pet humans" and their companion Greys. Numerous telephone calls to the lab from ecstatic Grey companions support this assertion. Extensive media coverage has also led to a public understanding that Greys and other parrots are intelligent, highly social beings that in spite of their different evolutionary history, show striking similarity to humans. Again, conversations with people who "saw Alex the African Grey Parrot on television" indicate they do in fact understand that Greys are intelligent, social beings not unlike human beings. Finally, the research has or will positively impact wild populations in two ways. First, through her interviews, Dr. Pepperberg emphasises the importance of conservation of the Grey Parrot. Second, the research conducted by Dr. Pepperberg's students in the Congo Basin contributes to the knowledge and conservation of wild populations of Grey Parrots. In the following paragraphs, I highlight some of this research.

In 1995, I began my research on the ethology of Grey Parrots in Dzanga-Ndoki Park, located in south-western Central African Republic. During this two-month field study, with the aid of two forest guides of the Bayaka tribe, I made at least two important observations. First, Greys produce a vocal repertoire far more complex than has yet been reported. Second, Greys engage in a behaviour not yet described in any published scientific study of Greys: ground foraging. These observations led to our subsequent research in Cameroon.

In 1997, Carolyn Bentley and I conducted research, with the aid of two Baka guides, for seven weeks in the recently established Lobéké Reserve. Lobéké is located in the south-eastern corner of Cameroon, 110 km from Dzanga-Ndoki Park. (Political unrest in the capital of Central African Republic prevented us from continuing research in Dzanga). For my dissertation research, I began to make audio and video recordings to examine variation in the call patterns of Grey Parrots. Currently in progress, my acoustic analyses of these and subsequent recordings indicate that Greys may have a minimum of 30 different calls. Such a large and varied repertoire is consistent with the communicative abilities demonstrated in our lab. Future research should examine the function and acquisition of each call in this rich repertoire. Ms. Bentley, for her senior honour's thesis, began a study of ground foraging. In fact, our very first day of observation at a large marsh clearing, Boulou Savanne, revealed that not only do Greys come to the clearing to forage on vegetation but also to engage in geophagy, or soil-eating. We observed flocks of up to 800+ Greys as they descended and foraged in select areas of the clearing. Ms. Bentley also collected soil samples for biochemical analyses to address hypotheses regarding the function of geophagy. We are now preparing an article for publication.

At Boulou, we also discovered another interesting Grey parrot behaviour that also was not yet

reported in the scientific literature. Although parrots are notorious for "chewing" things, we observed what we thought was chewing with a purpose: groups of up to 20 Greys chewing the bark of thin young branches of a tree. The parrot clips off a piece of bark, chews the piece for 1-2 minutes, and then drops the piece. It appears that Greys do not actually eat the bark, especially the fibrous part, but rather extract something from it. We hope that this observation will lead to future research that examines the function and physiology of this behaviour.

During this second field season, we also encountered several groups of men as they trapped Grey parrots for the international pet trade. These poachers used two different methods. One (the method that I illustrate at the beginning of this article) is a highly efficient capture method that capitalises on the ground foraging behaviour of Greys. The method involves the use of caller parrots ("appellants") and bait (usually ground plants and occasionally table salt) to lure large flocks of Grey parrots into vine-framed nets that are pre-set flat on the ground. I wanted to learn the method because it would be useful for many kinds of research studies. We could collect feathers for genetic studies, colour band and identify individuals for behavioural studies, and attach radio transmitters for studies of ranging and social behaviour. Therefore, I employed a parrot trapper. Under his direction, we trapped, measured, banded (with coloured aluminium bands), and released 40 Grey parrots. The second method employs the use of glue sticks, and it targets primarily Greys as they land on the ground and secondarily Greys as they land in trees. First, trappers gather palm fronds and strip them of their leaves. These are the sticks to which the glue is applied. Second, they slash a special vine and gather its sap. They heat the sap until it turns black and gooey, like tar. Next, they dip the ends of the sticks into the glue and place them either in the ground where the Greys descend or in a device (that they have constructed) that is placed on a tree branch. Finally, when the parrots land, their wing feathers adhere to the sticks and they cannot fly.

The impact of these methods, at least as they are typically practised, are incalculable and frightening. Although both methods are stressful to the birds, the net is particularly stressful. When trappers use it, they wait as long as possible before closing the net so that they can maximize number of parrots. But, when they close the net, the parrots are tightly sandwiched together; when the parrots struggle and try to bite and claw their way free, they maim each other and themselves. If they do not die immediately, some will die days or weeks later, probably from some combination of stress, infection resulting from wounds, respiratory infection resulting from poor living conditions, and pre-existing parasites.

Diana May feeds semi-tame African Greys. *Photo: Diana May*

The main problem with the glue method is that a number of parrots that get glue on their wings will escape and die because they cannot fly and/or because they are killed by predators.

To sum up, both methods clearly remove far more parrots from the population than are eventually exported - 10-50% according to my interviews with trappers.

In 1999, I returned to Lobéké Reserve and began collaborative research with Spencer Lynn, another graduate student in the Pepperberg Lab whose research goals included the study of the social structure and movement patterns of Grey Parrots. Our research goals were ambitious. Through collaboration with Mr. Lynn and use of a less-stressful variation of the poachers' net trapping method, coloured leg bands and radio tags, I aimed to expand the scope of my 1997 research to determine whether vocal variation corresponds to social interaction/contact patterns (or groupings). Tools consisting of brightly coloured PVC leg bands and radio transmitters (attached as collars) would enable us

1 to identify individuals and their corresponding vocalisations,

2 to determine which individuals "talked" to one another,

3 to track parrots to their communal night roosts, and

4 to determine which birds travelled or aggregated together.

Continued on Page 10....

An effective method for trapping parrots. *Photo: Diana May*

Rich pickings for African Greys. *Photo: Diana May*

Marginal success

Unfortunately, we achieved marginal success because of competition from poachers. In spite of regular patrolling of the reserve by forest guards (but who had no firearms), groups of poachers still succeeded in trapping and transporting parrots from Boulou Savanne. Not until late in the field season, did we process a mere 30 Grey Parrots, of which 24 we attached leg bands and 10 we attached radio collars (and some of these were birds confiscated from the trappers). Of the ten radio-tagged parrots, four returned to Boulou; we made no re-sightings of leg bands. If the poachers had not interfered with our research, our success would have been greatly increased because we could have tagged more birds and had more time to track them.

And, now it's April 2001. It's Animal Rights Month, the time of year when I think most about the safety of everyone in our research laboratory, including the birds. Animal Rights activists, who want to help the parrots, may ultimately be harming them in two ways. First, through their illegal activities around the globe, they force us to expend extra time, money, and in taking safety precautions that require extra time, energy, and money. Doing so has necessarily reduced the quality of life of parrots that live in lab. For example, we cannot have windows and this may be harmful to their health. Second, these activists prevent or inhibit the research that is essential for both the health and happiness of captive Greys and the preservation of wild populations.

Research is critical, whether the goal is sustainable harvest or pure conservation of Grey Parrots. When we began our research, little was known about wild populations. And, although we have only just begun, our data provide some of what is badly needed for success in preserving wild populations. First, our research and the subsequent research that it ignites provides information about the natural diet, habitat requirements, and behaviour of Grey Parrots. Results are invaluable to breeders and others who maintain captive Greys. When this information is used properly, it improves the lives of captive Greys, and, in turn, reduces or eliminates the demand for wild caught Greys. Second, our research reports on the harvest itself, particularly the impact that it has on wild populations. Reporting does three things:

1 It generates more focused, intensive studies of the Grey Parrot trade, studies that provide data essential for the design of sustainable harvest practices or conservation projects.

2 It affects the conscience and consequent behaviour of current or would-be importers (yes, some do turn away from the Dark Side).

3 It provides evidence and rationale for governments and other organisations that possess the power to implement effective trade regulations and conservation projects.

Finally, when combined with our laboratory research, it has an extraordinary impact on both people who might otherwise unintentionally contribute to the decimation of wild populations and people who might support (e.g., World Parrot Trust members) more research and conservation action.

If Greys are to have a bright future, then clearly, immediate and drastic changes are needed. First, export quotas should be abandoned. Why? Because they do not appear to work. For example, Cameroon has exceeded its Grey Parrot quota of 12,000 by up to 11,000 parrots (WCMC 1997)! Another reason is that quotas are based on little if any scientific data. The primary method for assessing the effects of trade and establishing quotas appears to be counting parrots; the typical timeframe for these population counts is very short, anywhere from a few weeks to a few months. Because, like other animals that live long and reproduce slowly, population counts provide little if any information about the rate of population replacement and therefore are insufficient for assessing the health of wild populations. Worse yet, population counts could falsely indicate large healthy populations that could in fact consist of predominantly senior parrots that will never reproduce; if so, a population crash can occur. The second major change, if possible, should be a ban on the import of wild-caught Grey Parrots into Europe and Asia either temporarily, until sufficient scientific data are available (to determine proper levels of sustainable harvest), or permanently. Currently, many Greys are bred in captivity across the globe; when bred and raised properly, there should be no need to import wild-caught Greys. If there were no importation of wild-caught birds, then there would be little incentive for Africans to trap, export, or even smuggle Greys. Furthermore, trapping can greatly hinder the success of gathering important scientific data, even in areas where it is legal (as I described earlier). Finally, perhaps the most important change that needs to be made is to support and carry out rigorous scientific study of wild populations, particularly reproduction. If we are armed with this knowledge, then we can save Grey Parrots.

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These birds join the tens of thousands taken from the wild every year. *Photo: Diana May*

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World Parrot Trust announces the launch of the Palm Cockatoo Conservation Fund

As one of the most spectacular parrots, and the species that graces the World Parrot Trust logo, we've had an interest in the prospects of the Palm Cockatoo for some time. For the past several years, we have had the pleasure of supporting Steve Murphy's work with Palms in the northern part of Australia, and hope to do more in future years in both Australia and Papua New Guinea.

To find out more about what's been happening with captive Palms, we contacted Mike Taylor at the White Oak Conservation Centre in Florida. Many of you are familiar with Mike's impressive husbandry manual for Palm Cockatoos (cf. http://www.funnyfarmexotics.com/PALM/), but he is also the SSP Coordinator and Studbook Keeper for Palms. While comparing notes on our mutual interests in Palm conservation, Mike mentioned that White Oak was already busy with its own conservation initiative. They recently funded the AZA's Palm Cockatoo SSP to commission a painting of a Palm Cockatoo with the twin goals of increasing awareness of the plight of Palm Cockatoos in the wild and to raise funds for the conservation of the populations in Australian and New Guinea.

They commissioned an artist named Steve Hein to create the painting and he chose to illustrate a Palm showing their unique drumming behaviour. Steve directs a raptor centre in Georgia and is also an award-winning wildlife artist, having painted for other conservation groups such as Ducks Unlimited and the National Wild Turkey Federation. This cockatoo print is Steve's first foray into parrots and we think you'll agree that he has done a magnificent job. The prints from his cockatoo painting are limited to 500 signed and numbered prints which are presented in a beautiful portfolio. The portfolio has an enlargement of the Palm Cockatoo's head in gray-scale on one side and information about the print and about the artist on the other.

Distribution of the Palm Cockatoo.

Given the great success of the Golden Conure Survival Fund and the Great Green Macaw Fund, we hatched the notion working together to create a Palm Cockatoo Conservation Fund, and directing 100% of funds raised to the conservation work of the birds in the wild. The print of the drumming Palm Cockatoo is however available for the very reasonable price of US$75 (£50) + shipping and handling, and can be purchased either from our on-line store or by contacting WPT UK or WPT USA. Please see the Palm Fund web page (worldparrottrust.org/palmfund.html) or email to PalmFund@WorldParrotTrust.org for more information.

Palm Cockatoo Limited Edition Prints available.

Because of the generous support of the White Oak Conservation Centre in the production of these prints, 100% of the sales price from these prints will go to the field to help conserve the Palm Cockatoo!

And for those of you who are as eager as we are to see these birds in the wild, we are also discussing the possibility of a fundraising trip to Australia to spend time with the Palm Cockatoos in person! Please stay tuned for more details.

Thank you for your generous support and we look forward to working with you to brighten the future of these remarkable birds.

Breeding Parrots for Conservation:

An idea whose time has come, or come and gone?

by JAMIE GILARDI, Director WPT

There are many reasons why we keep and breed parrots: as a hobby, as a business, as an educational tool, for public display, and very often, for all of the above. Because so many parrots are endangered in the wild, it may also make good sense to breed rare parrots to create a safety net for their wild kin. I'd like to focus on the last reason and ask, does it in fact "make good sense" to breed rare parrots for conservation? Will these parrots or their progeny ever help the survival prospects of their species in the wild?

Captive breeding has failed to contribute to the conservation of most rare parrots, such as the Moluccan Cockatoo. *Photo: WPT*

One of the few exceptions is the Echo Parakeet: 'in situ' captive breeding has increased numbers from 12 to over 120. *Photo: WPT*

The answer to this question was once very clear: it simply could not be done. Prior to the 1960's it was the exception rather than the rule that rare parrots could be bred successfully in captivity. But things have changed in the last 40 years. Due to the hard work, patience, and insight of countless aviculturists and veterinarians around the world, our ability to breed parrots in captivity has become commonplace. As readers of the *PsittaScene* know, the parrot market in the US is now flooded with captive-bred birds and prices have dropped precipitously, despite the lack of imports. While this raises a number of issues, one thing is clear - it is now entirely possible that many rare parrots can be bred in captivity and potentially play a role in the conservation of their species.

So now that we can, should we? Is aviculture "conservation"?

Along with learning how to breed parrots, we've also learned a great deal about parrot diseases, about the causes of decline of the wild parrots, and about how best to conserve wild parrots. Much of this acquired wisdom has been supported by the membership of the World Parrot Trust and is clearly presented in the Parrot Action Plan (now on-line at worldparrottrust.org/PAP/paphome.html). The editors of the Action Plan state:

In general, captive breeding can be justified as a desirable recovery approach when:

1 species are so rapidly approaching extinction that they cannot be expected to survive without intensive intervention of some sort and either effective conservation alternatives are clearly unavailable in the short term or sufficient time to investigate alternatives does not exist; or

2 all or nearly all individuals of a species are already in captivity and it is deemed worthwhile to attempt re-establishment of wild populations; or

3 other conditions prevail that make captive breeding and re-introduction absolutely essential for preservation of the species in the wild.

The reasons for this position are a combination of disease risk, costs of breeding facilities, difficulties of releasing captive bred birds, and risk of genetic and cultural contamination. If we balance these factors against the costs and benefits of protecting the existing wild birds and their habitat, the most effective conservation strategy nearly always favours saving the wild birds.

Let's look at all the exceptions where captive breeding is still essential to conservation since I think you'll find that it's a short list.

1 Spix's Macaws are extinct in the wild so their only chance is the remaining captive animals. With cooperation among their 'owners' and with the work of experienced parrot field biologists, hopefully the Spix's will someday have a future in the wild.

2 The remaining Kakapo in New Zealand do very poorly in what we normally think of as captivity, but they are basically all captive animals as they've been moved to offshore islands. So again, those 'captive' animals are our only hope for that unique species.

3 As a result of decades of hard work, the Puerto Rican Parrot is slowly recovering, and the captive birds on Puerto Rico will likely continue to be of value to the recovery of the wild birds (despite the recent theft - see page 16).

4 The latest news from Mauritius (see page 4-5) suggests that the captive Echo Parakeets remain valuable in augmenting the wild animals. And the final exception

5 According to Eduardo Iñigo Elias and Juan Vargas Velazco (two of Mexico's great parrot conservationists), the Socorro Parakeet may number less than fifty in the wild. While implementing conservation action in the field should continue to be the highest priority, the handful of captive birds will potentially be of importance to the restoration of this population.

Those are the five exceptions I can think of for which there are already birds in captivity and they are likely to make a direct contribution to conservation. In Australia, Stephen Garnett points out that there are several cases for which captive breeding will continue to be of direct value to conservation, but these birds are part of dedicated conservation programs *in Australia* and none are in private aviculture.

There are at least three species for which it is a little early to tell whether the captive birds will be of direct value to conservation. The Lear's Macaw is just such a case, with fewer than 200 birds in the wild. I would like to think that if we're doing our job as conservationists, the captive birds will not be needed for the recovery of the species. But with so few left in either captivity or in the wild, every Lear's - such as the ones repatriated to Brazil just this month (see page 17) - has the potential to make a contribution to the survival of this species. Also, for the Ecuadoran population of Great Green Macaws, the handful of captive animals *in Ecuador* may contribute to the recovery of that tiny population. Lastly, the Blue-throated Macaw is in a sorry state in the wild - again less than 200 birds flying free, while many times that number are in cages around the world. Since it was trapping for the international pet trade that nearly drove this species to extinction, shutting this threat down should allow the remaining birds to bounce back in the coming decade, but it's too early to be certain about their prospects.

So that leaves us with five exceptions and three questionable cases. For all other parrots I can think of - even rare species like Golden Conures, St. Lucia Amazons,

Hyacinth Macaws, St. Vincent Amazons, Moluccan Cockatoos, and Thick-billed Parrots - the "conservation breeding" dogma is simply not supported by the facts. Although we have all grown comfortable with the notion that captive breeding programs are critical to the conservation of the species, with the few exceptions mentioned above, it is highly unlikely that parrots now in cages will ever be of direct conservation value to the species in the wild.

That said, the captive animals can of course be of great *indirect* conservation value. Captive parrots are ideal ambassadors for their species and for the plight of tropical nature in general. For example, the Bronx Zoo presents a very progressive display along with their captive parrots, highlighting the role of the pet trade in the decline of wild parrot populations. And at many zoos and bird parks, the birds are displayed along with a mechanism for direct donation - a collection box or parking meter - which help raise money for conservation in the field. Trained parrots are also enormously effective at grabbing viewers' attention in shows like the one that Steve Martin's group performs all over the country - shows that can be highly educational and generate substantial resources for conservation. Finally in countries still importing wild-caught birds for the pet trade, captive bred chicks can reduce the demand for wild-caught birds which reduces the pressure on wild parrot populations. So there are many ways that captive birds can make very real, albeit indirect, contributions to conservation.

But the question is really whether a successful captive breeding program for a given species is an essential part of preventing that species from going extinct. While the answer was less clear ten or twenty years ago, we can now safely say that unless one happens to own a Spix's Macaw, a Kakapo, or one of a handful of extremely rare birds, captive breeding efforts will be of no direct value to the continued existence of that species in the wild.

While this may seem deflating, I think it is in fact great news. It says to me that for many of these species, our efforts to protect and save them in the wild have been wonderfully successful. Consider the *Amazona* in the eastern Caribbean - the news from St. Vincent, St. Lucia, and Dominica is uniformly positive, as is the news on the Hyacinth Macaw. With more hard work and lots more funding, I am hopeful that we'll be saying the same thing for other species like the Golden Conure and the Great Green Macaw. The energy and resources that went into the countless captive breeding programs around the world were undoubtedly the right strategy at the time, but in most cases, the situation has changed and it's time to regroup. We need to think carefully about how we make use of each of these birds, whether we breed them, and how we allocate our energy and resources to best help the recovery of threatened parrots around the globe. Are we kidding ourselves when we say that we're breeding birds 'for conservation'? I've been impressed by the number of established aviculturists and zoo curators who have come around to an enlightened perspective on this and admitted that the 'conservation breeding' justification no longer holds water, including the very person who coined the phrase, "Aviculture is Conservation."

My sense is that the sooner we can employ the birds we already have in captivity to help the recovery of the wild parrots, the sooner we'll be reporting more good news from the parrot conservation front. And this is not only a question for people who have birds on display to the public, but also to everyone who owns parrots and considers breeding them. We should all think long and hard about why we own birds, and if we choose to breed them, why we've made that choice. There are of course many legitimate reasons to breed parrots in captivity; conservation simply is not one of those reasons.

Close encounters with Carnaby's

by TONY JUPP, Western Australian Department of Conservation and Land Management

Endangered Carnaby's Black-Cockatoos *Calyptorhynchus latirostris* **(formerly known as the Short-billed White-tailed Black Cockatoo) are delighting visitors to Yanchep National Park, fifty kilometres north of Perth in Western Australia. The species is now scarce in many parts of its former range due to massive loss of feeding and breeding habitat. They are, however, present in large numbers in Yanchep National Park as this protected area provides good feeding grounds with vast tracts of pristine banksias woodland. We have also noticed some pairs nesting here in the hollow limbs of giant Tuart trees** *(Eucalyptus gomphocephala)***. Most Carnaby's Black-Cockatoos however breed further inland. The noisy, ever-present flocks of hundreds of individuals are a stand out feature of Yanchep National Park and can be seen and heard daily. For reasons we don't quite understand, they congregate in the recreation areas of the park causing considerable damage to the trees through their habit of biting off the fresh branches in the tree canopy. This creates quite a mess but it's a case of "they were here first" and we are lucky to have them around.**

Carnaby's Black-Cockatoos before foraging on the ground. *Photo: Tony Jupp*

Unconcerned fledgling. *Photo: Tony Jupp*

A curious event occurred recently when a large flock of Carnaby's Black-Cockatoos were seen foraging on the ground. This behaviour is uncommon and I had personally not witnessed it before in years of observing the birds. Even more curious was the fact that as I approached the flock to take the photos, most of the birds seemed unconcerned by my presence and remained within two metres of me as I moved between them. On closer inspection I realised that those individuals that did take flight were adults and those remaining were fledglings. This may account for their uncharacteristically blasé behaviour. Apart from the thrill of the close encounter, it is also encouraging to see such a large group of young birds as proof that at least some breeding success is occurring for this magnificent parrot.

Dramatic fluctuations in reproductive success of Lilac-crowned Parrots

by KATHERINE RENTON

In the August 2000 issue of *PsittaScene* Katherine Renton described the research project for the Lilac-crowned Parrot (*Amazona finschi*) in Mexico. She explained why this parrot is now a threatened species. This article contains information on the latest research from the project, which is partly funded by the World Parrot Trust.

The study is being conducted in the tropical dry deciduous forest of the 13,142 ha Chamela-Cuixmala Biosphere Reserve in Mexico. Reproductive success of the Lilac-crowned Parrot population will be analysed using the Mayfield Maximum Likelihood Estimate.

Lilac-crowned Parrots will be fitted with radio-transmitter neck-collars designed for use on Amazon parrots and comprising less than 3% of the parrot's body mass. Each transmitter has a battery life of 12 months, enabling investigation of seasonal variations in movements and area requirements, as well as the survival, development, and dispersal of juveniles. Radio-marked parrots are located by triangulation of simultaneous readings from three telemetry stations. Telemetry locations are taken throughout the year to determine area requirements and habitat use of Lilac-crowned Parrots. Parrots are tracked over long distance movements by light aircraft, while 3-element hand antennas are used for close observation of radio-marked individuals where possible.

Lilac-crowned Parrot with transmitter. *Photo: Katherine Renton*

Use of radio telemetry

Area requirements of Lilac-crowned Parrots will be evaluated using the 95% minimum convex polygon and the 50% kernel utilization distribution. Habitat use by Lilac-crowned Parrots will be evaluated in relation to daily activity requirements and analysed by rank correlation of habitat use against habitat availability. Radio-telemetry data will also be used to determine the survival rate of Lilac-crowned Parrot juveniles during their first year.

As part of ongoing research on the reproductive success of Lilac-crowned Parrots in tropical dry forest, we followed the outcome of 47 nests since 1996. Mayfield Maximum Likelihood estimates of nest success demonstrate that overall only 46% of Lilac-crowned Parrot nests produce fledged young (Table 1). This is well below the 60-70% nest success expected for cavity nesting birds. Principal causes of nest failure were natural predation, nest poaching and environmental factors in tropical dry forest. The majority of nests failed during the nestling stage and particularly during the first month of nestling development, when nestlings were most vulnerable to predation or starvation (Table 1). The low clutch size and high failure rate of Lilac-crowned Parrot nests resulted in an average reproductive output of 1.0 fledglings per breeding pair of parrots.

Table 1

Mayfield Maximum Likelihood estimates of survival during each phase of the nesting cycle for 47 nests of the Lilac-crowned Parrot (1996-2000).

Nesting phase	Probability of nest survival
Incubation (28 days)	0.81
Nestling first month (30 days)	0.65
Nestling second month (30 days)	0.89
Nestling combined (60 days)	0.54
Entire nesting phase (88 days)	0.46

During year 2000, we documented a dramatic decline in productivity of Lilac-crowned Parrot nests, even though this was the only year in which parrots were recorded to lay and hatch up to 4 eggs, giving a high mean clutch size for year 2000 (Fig 1). Although the breeding season of year 2000 began with a high fecundity, this was not completed successfully during the course of the nesting period. This was also the first year in which we documented the mortality of nestlings due to starvation, with a high mortality of last hatched chicks (all third and fourth hatched chicks died due to starvation).

By comparison, the breeding season of 1999, proved to be the most productive of all study years since 1996 (Fig 1). This may have

been due to the high rainfall of 1,357 mm prior to the nesting season (usual mean annual rainfall is 748 mm) and a corresponding increase in food resources. This was followed by the severe decline in reproductive output during year 2000.

Tropical forests in Central America exhibit annual cycles of years of fruit abundance followed by years of fruit scarcity, with consequences for animal communities dependent on these food resources. Dramatic fluctuations in reproductive success and output of Lilac-crowned Parrots corresponded with years of climatic variability and indicate the natural processes which may limit reproduction of parrot populations in tropical dry forest. This could make wild populations vulnerable to increased pressures such as habitat fragmentation. Tropical dry forest has one of the highest rates of deforestation in Mexico, making it essential to predict the impact of habitat fragmentation on parrot populations, particularly in extreme years of climatic variability.

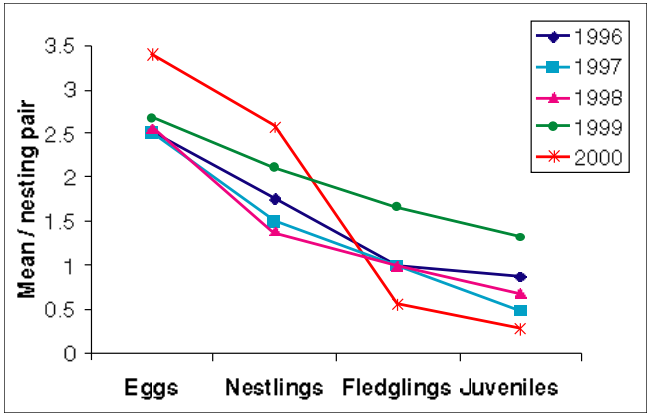


Figure 1 Between year variation in productivity of nesting pairs of Lilac-crowned Parrot.

Area requirements, habitat use and regional movements

The radiotelemetry study enabled us to evaluate the development and survival of juvenile parrots after leaving the nest. The juvenile phase is the least understood portion of the avian life cycle and few estimations of productivity for wild psittacine populations take into account post-fledging mortality. From 1996 to 2000, we fitted radiotransmitters to 41 Lilac-crowned Parrot fledglings, determining a mortality rate of 29.3% of juveniles after leaving the nest. Incorporating this post-fledging mortality with other factors throughout the breeding season gives an overall reproductive output of 0.72 juveniles in the adult flock per breeding pair of parrots.

Diet observations demonstrated that Lilac-crowned Parrots utilize at least 33 species of tree, with seeds forming 82% of the diet. Data on fruiting phenology and observation on feeding behaviour of parrots demonstrated that semi-deciduous forest is a key habitat type in the dry season, providing food resources for parrots at a time of scarcity. In the same way, deciduous forest is important in providing abundant food resources for parrots at the end of the rainy season, prior to the breeding season and egg-laying.

The telemetry study also provided the first data on the altitudinal migration undertaken by parrots at the end of the dry season, travelling 46-50 km from the Chamela-Cuixmala Biosphere Reserve to the Sierra Cacoma, adjacent to the Sierra Manantlan Biosphere Reserve. Data was also obtained on juvenile dispersal demonstrating that parrots hatched in the Chamela-Cuixmala Biosphere Reserve may disperse to forested area at least 60 km from the reserve.

Inside Lilac-crowned Parrot nestbox. *Photo: Katherine Renton*

Conservation Recommendations

Member of the Subcomité Técnico Consultivo para la Conservación, Manejo y Aprovechamiento Sustentable de Psitácidos en México, SEMARNAP/INE

The project is collaborating with the Sub-committee of Psittacids of the Mexican government Department for the Environment, Natural Resources and Fisheries (SEMARNAP) to develop a 'National Plan for the Conservation of Psittacids in Mexico'.

During year 2000, the project participated in development of the 'Proyecto de Recuperación de Especies Prioritarias: Proyecto Nacional para la Conservación, Manejo y Aprovechamiento Sustentable de Psitácidos en México'/

Project participants proposed 'Conservation Actions' for the following species:

Military Macaw (*Ara militaris*)

Yellow-headed Parrot (*Amazona oratrix*)

Lilac-crowned Parrot (*Amazona finschi*)

Psitta news

Feathers for Zuni Tribe

As the result of our appeal for feathers in the August 2000 issue of *PsittaScene*, Avril Barton of Leeds (0113 249 8821) sent a large batch of feathers to the Zuni tribe in New Mexico. In March she received the following reply:

I wanted to personally thank you for your kind donation of parrot and macaw feathers to the Pueblo of Zuni. There are several thousand religiously active men and women in the community in constant need of feathers for religious and cultural items, as Zuni is one of the most traditional Indian Tribes in North America. All types of feathers, large and small, are needed and appreciated. Often our use of the feathers is accompanied by prayers, not just for the Zuni people, but for the health and welfare of all mankind. You, in particular will find a place in our prayers as we make use of the feathers you have so graciously sent.

Please continue to send us feathers regularly when you can as most of the feathers are used for one-time prayer offerings.

Sincerely, Malcolm B. Bowekaty, Governor, Pueblo of Zuni.

Golden Conure Painting

letter from BRENDA FOX

I bought the Golden Conure Print that was in the August issue of the *PsittaScene*. I must tell you that I am more than just pleased with the print, it has brought me many hours of pleasure. I hope you will continue to bring more of Mr Hackings prints to the world of parrot lovers.

Thank you.

Good News for Mexico

Email from ALEJANDRO GRAJAL

Ernesto Enkerlin has become Director of Protected areas for Mexico. (Director de la Comision de Areas Naturales Protegidas de Mexico). We are all very happy for him and we should all rally behind him in the enormous task ahead. Mucha suerte, Ernesto y cuenta con nosotros.

Pet Birds 2001

The second BirdsFirst conference will be held 9.30am - 5pm, Sunday 28th October 2001 at Stratford Manor Hotel, Stratford-upon-Avon.

Speakers include Rosemary Low: Suitability of different parrots as pets; Sally Blanchard: 'Nurturing guidance' for obedience training; Malcolm Green: Diets and supplements; Neil Forbes FRCVS: Feather plucking; Greg Glendell: Welfare of parrots on sale; Tim Wright: Amazons in the wild: Any questions session - ask the experts.

Admission by prepaid tickets only £36. Includes lunch and tea/coffee breaks.

WPT members and BirdsFirst supporters are offered a special rate of £30.

For details and booking forms send SAE to: BirdsFirst, PO Box 227, Shrewsbury, SY4 5WU, UK. Or phone Greg Glendell 0870 757 2381 or email greg@petparrot.freeserve.co.uk

Chariman of PAKARA presenting 1,000 guilders (approx £300) to WPT.
Photo: Ruud Vonk

WPT Benelux

by RUUD VONK

The Parrot Society PAKARA organised a mini-symposium about parrots during a trade fair/ exhibition on 9th and 10th December 2000 and they asked for help from WPT Benelux. I gave two lectures on Saturday and Sunday about projects that WPTis involved in.

During the first session the Chairman of PAKARA(NL), Aad van Duyneveldt gave me the cheque as shown above for one of our WPT projects.

At the same time a TV team of Network Brabant recorded this and it was to be broadcast in February.

Again our thanks to PAKARA (NL) for this generous amount of money.

Endangered Puerto Rican Parrots Stolen from Federal Aviary

Reward Offered

From USFWS News Releases Home Page

The U.S. Fish and Wildlife Service is offering a $2,500 reward for information leading to the conviction of those involved in the break-in at the U.S. Fish and Wildlife Service aviary located at the Caribbean National Forest. The Federal facility was burglarized on April 22, 2001. An undisclosed number of birds were taken from the facility. This theft is a violation of the Endangered Species Act.

The parrots were being used for a captive-breeding program to reintroduce them into the wild for the purpose of bringing back the only native parrot in Puerto Rico. Less than 50 Puerto Rican parrots exist in the wild, all in the Caribbean National Forest. About 100 parrots, part of the reintroduction effort, live in two aviaries in Puerto Rico. Anyone with information about this incident should call U.S. Fish and Wildlife Service Special Agent Luis Santiago at (787) 749-4338.

For more information about the Puerto Rican parrot reintroduction program, visit: http://southeast.fws.gov/prparrot/index.html.

Britannia International School, Italy, Classes 5 & 6, - pupils who have written and sent feathers to the Zuni Tribe.
Photo: Christine Scorney, Class Teacher

Mr Nigel Weekes, Director of St. Vincent Forestry Department with captive St. Vincent Amazon parrots in Barbados. Photo: Roger Sweeney. Graeme Hall Nature Sanctuary

St. Vincent Forestry Director visits captive parrots in Barbados

A senior official from the Forestry department of St. Vincent & the Grenadines was in Barbados recently to visit a group of endangered St. Vincent birds living in Barbados as part of a conservation and research project.

Mr. Nigel Weekes, Director of the St. Vincent forestry department, was in Barbados at the invitation of the Graeme Hall Nature Sanctuary to visit a captive group of St. Vincent Amazon Parrots that have been living in Barbados since the early 1970's. The group of birds had originally been brought to Barbados as part of the former Oughteson Zoo collection. Since the closure of the Zoo in 1998, the birds have now been cared for as part of a conservation outreach programme managed by the Graeme Hall Nature Sanctuary.

During his three-day working visit to Barbados, Mr. Weekes worked together with officials of the Graeme Hall Nature Sanctuary to draft a proposal whereby the Sanctuary will participate in a new five-year conservation programme to be initiated by the St. Vincent forestry department. The new programme, which includes elements of captive management and research, study of the behavioural ecology of the parrot in the wild and a local education campaign designed to encourage the resident communities to help protect the parrot by promoting a stronger sense of national pride in the endemic wildlife of St. Vincent & the Grenadines.

Roger Sweeney, Associate Director of the Graeme Hall Nature Sanctuary, stated "the St. Vincent Amazon Parrot is one of the largest, most intelligent and charismatic birds in the Caribbean. It is a perfect conservation flag ship species to promote the preservation of biodiversity in forest regions that it inhabits in the wild." Sweeney also stated "Graeme Hall Nature Sanctuary welcomes the invitation to assist the forestry department of St. Vincent & the Grenadines in a field conservation programme for this species and has made a formal five-year commitment to participate in the new conservation programme."

The invitation for the visit of Mr. Weekes was made by the Graeme Hall Nature Sanctuary to enable the St. Vincent forestry department to be briefed upon their recent history and care of these birds. The parrot is the national bird of St. Vincent & the Grenadines and is considered to be a priority for behavioural ecology research.

Eggs needed for Research in the UK

Fertile eggs with living embryos are needed to enable research into viral diseases in parrots to continue. Scientists at the Central Veterinary Laboratory in Surrey, UK, have obtained valuable information in recent years, on PDD (Proventricular Dilatation Disease) and other viral diseases affecting parrots, as the result of culturing cells from parrot eggs. If you can donate eggs with live embryos (especially those of African Greys), Please contact Sally Drury on 01932 341111. Grey Parrots' eggs are needed most of all and those of many other parrot species would be useful.

Formation of the Cape Parrot Working Group

by LOUISE WARBURTON, University of Natal, South Africa, Email: warburtonL@nu.ac.za

The Cape Parrot Working Group, CPWG, was officially inaugurated at a meeting held at the Mkombati Nature Reserve, Eastern Cape on the 5 & 6 March 2001. The group comprised a core assembly of people involved with: research and monitoring of the Cape Parrot in the wild, provincial nature authorities, and local aviculturists involved in breeding the species in captivity. The aim of the workshop was to facilitate contact-building and communication with the objective of promoting the long-term conservation of the Cape Parrot in the wild and captivity.

The Cape Parrot *Poicephalus robustus* is recognised by the IUCN (World Conservation Union) as an Endangered species, with approximately 500 birds left in the wild. Their numbers and habitat are declining. The future of the species is precarious and conservation action needs to be taken now if the Cape Parrot is to have any chance of survival in the natural state. The CPWG is dedicated to achieving this aim.

Smuggler Jailed, Two Lear's Macaw returned to Brazil

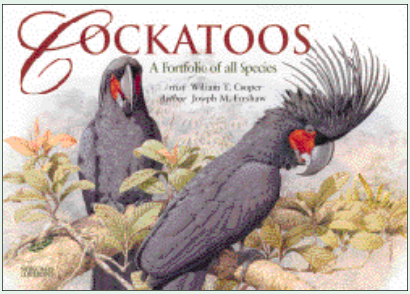
Carlos Yamashita and the Lear's Macaws ready for transportation.

After long drawn out legal action in Singapore, Lawrence Kuah Kok Choon, 27, was convicted of smuggling two Lear's Macaws. He was jailed for a year, and fined $10,000. Evidence contributing to his conviction was provided by Dr. Carlos Yamashita, Brazil's leading parrot expert, and by Dr. Charles A. Munn, USA.

Dr. Yamashita travelled to Singapore to collect the two macaws and repatriate them to Brazil. The birds have now joined the breeding group at Sao Paulo Zoo.

We believe this may be the first occasion on which CITES has been successful in recovering and returning smuggled parrots.

Lear's Macaw at Sao Paulo Zoo.



Cockatoos Portfolio

This new 'Cockatoos Portfolio' has just been published by Forshaw and Cooper.

For a copy of this splendid descriptive brochure please contact Nokomis Editions at: PO Box 319, Clifton Hill, Victoria 3068, Australia. Phone:+61 3 9486 1756, Fax: +61 3 9482 3573, Email: nglavish@nokomis.com.au

New World Parrot Trust Members List

Given the various powers of the internet, along with upgrading our web site, we are in the process of starting something new - that is the World Parrot Trust Members Listserver - or the Members List for short. Since we have a very impressive collection of researchers, aviculturists, educators, and all around committed parrot owners among our ranks, we thought it might be helpful to have a venue for:

- **Asking and answering questions about parrots, parrot care, and parrot conservation.**
- **Updating members on the latest news from the field, faster and with greater depth than in *PsittaScene*.**
- **Providing information on upcoming meetings and events that might be of interest to members.**

Signing up is easy. Just send a message to wptmembers@worldparrottrust.org along with your name and member number (that's on your mailing label) and we'll send you a welcome letter with the details on how the whole thing works. Please give it a whirl, and we'll look forward to seeing you there.

One example:

I have a 15 year old Hahn's macaw (female). I bought her a new, larger cage about 6 months ago. She plays on the top of it, but won't go inside. Once I forced the issue and she wouldn't come to me for a week and when she did, she nipped me. How can I get her into her new cage without traumatising her. I need help.
Thanks, Barbara

Not only would I put the two cages side by side, but I would load up the new cage with some new toys and some yummy treats.
David

Thank you so much for your reply. It certainly does make sense. I will try it and let you know how it worked, if it does! I love this site. It really is fun and I am learning a lot about the clay thing.
Barbara

Dear Barbara,
I am sorry I am a little late on this, but, I would like to offer some suggestions. I understand your bird does not like to go back into its new cage and gets nippy when you forced the issue. My philosophy is to never make a bird do anything it doesn't want to do, but, find reasons that the bird will want to do those things that you want it to do. Look at it from your bird's perspective. Why should he go into his cage? He's supposed to doesn't work for parrots. They rarely do anything that they don't want to do. However, if you found a reason for him to "want" to go into the cage, your problems may be solved. What does he like? He must like some kind of food or treat. If you put this favourite treat in his cage he may be inclined to go inside and eat it. But, like many parrots, he probably has plenty of history associated with getting the door closed on him every time he goes into his cage. If he doesn't want to be in his cage, or would rather be on top of the cage, going into the cage and having the door slammed on him is not too attractive. So if you let him go in for a treat and then let him come out again, his perception of the cage will begin to change. He will start looking at is as a place to get treats instead of a place that he gets locked up in. Repetition breaks down confidence barriers. The more times you "let" him go into the cage for a treat and come right out again, the more confidence he will have in going into the cage. When you finally want to close the door on him for the night, give him an extra special treat, one that will take him awhile to eat, like a big piece of corn on the cob. By the time he finishes eating it he will have forgotten that the door was closed behind him.
Behaviour is a product of experience or instincts. You can't control the instincts but the experience is yours to give. Let his experience with you, the cage and every other person or object in the house be positive and your relationship with him will also be positive.
Good Luck, Steve Martin

I want to thank you so much. I showed Peppy a pistachio nut (her favourite) and she so wanted it. I moved it inside the new cage, along the perch and showed her that I put it in her feed cup. She went in to eat it and then came right out. Later I showed her that I put another one in there and she waited until she thought I wasn't looking, went in, ate it, and came right out. This is the start of something new!!! I sure hope she spends more time in there so that I can eventually move her in there permanently.
Again, Thanks, I will keep you updated. Barbara

Second example:

Can anyone help me out on this one? I spent a fair bit of time in the mountains in Australia and there was this one wild bird that would come by. He is in the picture.
A lot of the birds in the mountains had quite a few bugs crawling all over them. I was wondering if anyone had any ideas if the bird in this picture was suffering from parasites, if he looked like he had a disease, or perhaps was just passing through a bad moult. It doesn't look like a moult to me. One day this bird stopped coming by.
Any thoughts? David Cooper

Could this be PBFD? I've only seen a few photos of parrots in the advanced stages of it. This doesn't look like a bad moult to me. Poor little guy. Did you notice any others in the flock that had this look?
Connie P

PBFD was my initial thoughts, but I'm in the same situation as you - I've only seen the photos of the really advanced stages of it.
Since this was a flock of wild birds PBFD would not be a good thing in the wild population. I've heard elsewhere that the wild population suffers from PBFD in certain areas.

Of all the birds in the area, this poor guy was the only one. He was very timid (and very hungry). He wouldn't hesitate to come right up to me. He wouldn't compete with the other birds for food. If he did have food the other birds would come up and take it from him and he wouldn't put up a fight for it. He would let the other bird take it and walk away.

Beak and Feather Disease, possibly. I've heard that it is prevalent in Australia among cockatoos. I've never seen a case, nor is this information other than anecdotal (came up in a discussion about feather picking noted among cockatoos in Australia; an avian vet said it was probably Beak and Feather Disease and not true feather picking, which is supposedly limited to parrots in captivity).
Candice

The picture you posted is most likely PBFD. Active research on this disease is ongoing in Australia at Murdoch University in the lab of Dr. Shane Raidal. PBFD is found in the wild population and has become a significant disease threat to some species of psittacines. The already highly endangered Orange-bellied Parrot (Neophema chrysogaster) may now be facing a serious threat from PBFD. Also, the disease may not be limited to Australia, as there are anecdotal reports of psittacines in South Africa (Poicephalus) being taken from the wild for captive breeding programs that are reportedly testing postive for PBFD. Dr. Raidal would welcome any support offered to further these research efforts.
The role of infectious disease has been somewhat overlooked in conservation efforts but is playing an increasingly more important role. Many species of Hawaiian birds are seriously threatened by introduced pathogens such as Toxoplasmosis and Malaria. Research here at the Schubot Exotic Bird Health Center at Texas A&M University is also examining the role of infectious disease as a threat to wild bird health. Your help is needed to support avian veterinary medical research since infectious disease is rapidly becoming a serious threat to many populations in the wild.
Darrel K. Styles, MS, DVM

I've seen a very similar phenomenon in cardinals, which are native and common to Virginia and other parts of the United States. It appears seasonal, which makes me suspect it is some kind of severe moult. However, it does not seem to affect all the birds equally, so it's baffling. It could be mite infestation or perhaps a combination of factors.
Richard

Aims of the Trust

The survival of parrot species in the wild, and the welfare of captive birds.

These aims are pursued by:

- Educating the public on the threats to parrots.
- Opposing trade in wild-caught parrots.
- Preserving and restoring parrot habitat.
- Studying the status of parrot populations.
- Encouraging responsible aviculture.
- Creating links between aviculture and conservation.
- Promoting high standards in the keeping of parrots.
- Supporting research into veterinary care of parrots.

The World Parrot Trust's Action Grants Programme: Request for Proposals

We are pleased to announce a new 'Action Grants' program to support the implementation of the Parrot Action Plan. Following through on the Trust's commitment to seeing the Plan through to publication and distribution, we're keen to support conservation action on behalf of the nearly 100 species of parrots that are globally threatened with extinction. After all, our goal was not to produce a paper product, but to prioritise and focus limited resources on critical species.

For the current round of grants, we are planning on allotting US$50,000 to 10-15 projects of this kind. Projects will be reviewed by our Scientific Committee and priority will given to projects directed toward effective conservation of parrot species included in the Parrot Action Plan (for a copy of the plan, please see http://www.worldparrottrust.org/parrotactionplan.html for a full on-line version and ordering information for the printed version). For more details on submitting a proposal, please see the Action Grants web page at http://www.worldparrottrust.org/action.html or e-mail us at actiongrants@worldparrottrust.org

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Central: http://www.worldparrottrust.org
Canada: http://www.canadianparrottrust.org
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Parrots in the Wild

Psitta scene

Severe or Chestnut-fronted Macaw

Ara severa

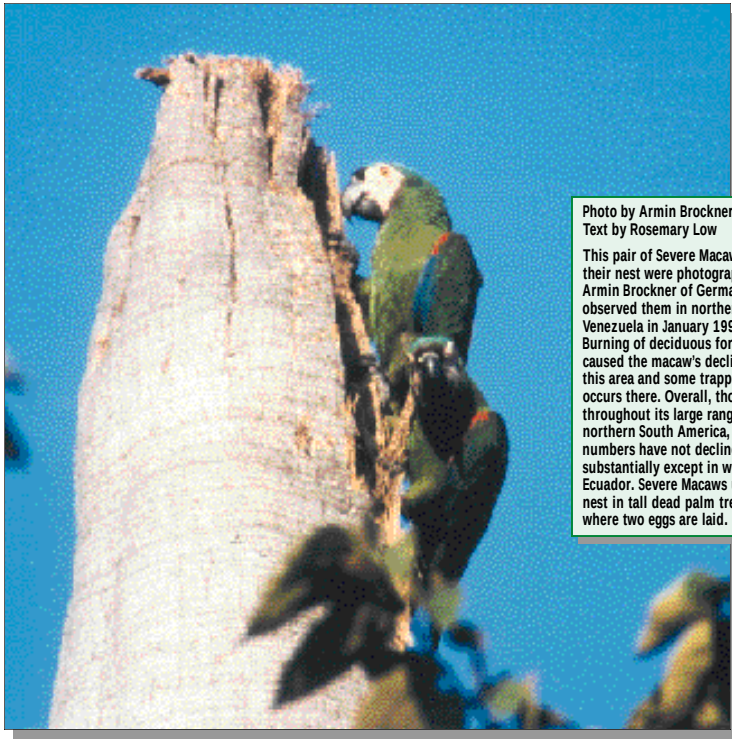

Photo by Armin Brockner
Text by Rosemary Low

This pair of Severe Macaws at their nest were photographed by Armin Brockner of Germany. He observed them in northern Venezuela in January 1995. Burning of deciduous forest has caused the macaw's decline in this area and some trapping still occurs there. Overall, though, throughout its large range in northern South America, its numbers have not declined substantially except in western Ecuador. Severe Macaws usually nest in tall dead palm trees, where two eggs are laid.

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