Psitta scene

News about parrot conservation, aviculture and welfare from The World Parrot Trust

Vol. 6 No. 3
AUGUST 1994

PARROTS - THE WORLD'S MOST CHARISMATIC BIRDS

By Michael Reynolds

What makes these birds special? Is it their beauty, their personality, their variety? Perhaps it's their ability to mimic our speech, give us companionship, live almost as long as we do. The fact remains that man, throughout recorded time, has chosen these birds to share his home.

The parrots have paid a heavy price for this distinction.

Especially over the past thirty years the demand for parrots has resulted in millions of them being taken from the wild. Inevitably, many have been cruelly treated, and many have not survived. Fortunately, we have learned how to breed them in captivity, and now a majority of parrots sold as pet or companion birds have been aviary bred. Despite this, parrots are still being taken from the wild often for local trade because the international market has declined.

Together with destruction of forests and other habitats, the threat to the survival of parrot species continues to increase. Over 100 of the 335 species are in danger of extinction.

That is why, in 1989, the World Parrot Trust was founded. Its objective: to promote the survival of all parrot species and the welfare of every individual bird. The Trust's philosophy is that in all its involvements, with aviculture, conservation groups, scientists, zoos, government bodies, business people, private individuals, **the interests of the parrots themselves come first.**

"psittacine
(sit'ă sīn) Belonging or allied to the parrots; parrot-like"

The World Parrot Trust has made good progress in the past five years. This quarterly newsletter 'PsittaScene', edited by Rosemary Low, is read in 43 countries by over 6000 people. The Trust has won the confidence and co-operation of the scientific community, and received invaluable support from the conservation-minded elite of the avicultural world. Branches of the trust have been established in Holland, Belgium, Denmark, Canada and now in the USA. $600000 has been raised so far, and spent on aiding the survival of twenty CITES Appendix One parrot species. With the cooperation of other conservation groups and leading field biologists we have created the World Parrot Trust 'Portfolio', listing endangered species which can be funded through the Trust. In effect the World Parrot Trust has become a key focal point for parrot conservation worldwide. What we urgently need is a substantial increase in our funding so we can do justice to the many worthwhile projects we know about, but cannot currently help.

We humans have many different attitudes to the parrots. Some of us see them as items of merchandise to be traded for profit. For others, they are cherished companions. Many of us keep and breed them in aviaries, enjoying the fascinating and challenging hobby of aviculture. What is certain is that nothing will stop this on-going relationship between man and parrots.

What the World Parrot Trust asks is that we should treat these outstandingly beautiful and intelligent birds with compassion.

Whether in the home environment or within aviculture, let us aim for the highest standards of care and concern. An important part of meeting that responsibility is to show practical support for the survival of parrots in the wild.

We believe that anyone who has ever kept a parrot shares responsibility for the past, present and future of all parrots. This is especially so for the parrots in the wild, without which we would have nothing. No pets, no aviculture, no billion dollar a year industry built around the world's most charismatic birds. Only a tiny fraction, perhaps one thousandth, of that billion dollars goes back into helping parrot conservation.

Red-tailed Amazon. See our report on page 3. *Photo: David Waugh.*

World Parrot Trust

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Beauty, personality, variety - the macaws have it all. *Photo: Bonnie Jay*

Coming from the world of aviculture, as the founders of The World Parrot Trust do, we feel entitled to point out the vast imbalance between what is spent on parrots in captivity, and what is spent on parrots in the wild. To anyone who might say: 'Why should we spend anything on parrots in the wild?', we would remind them that for thirty years or more we aviculturists encouraged the removal of parrots from the wild in great numbers, giving little or no thought to their survival in nature. As we have said before in 'PsittaScene', it's time to 'put something back' to help the parrots in the wild.

However, it is clear that aviculturists are not the main financial winners in the world of parrots. We are the ones who put in the initiative, enthusiasm, endless hours of care, to produce those wonderful baby parrots. Then what? We may keep them for ourselves, give them to friends or exchange them for new stock, perhaps sell a few hand-reared birds to be pets or companions. We've enjoyed it, met a lot of nice people, but we'll never get rich.

And yet, these really are the billion dollar birds. That's our rough estimate of the annual value of the gigantic business that has been built around the parrots. A few aviculturists are successful financially, others may manage to make their hobby pay for itself, but in general it's the other guys who are making money out of the parrots: the cage makers, the aviary builders, the suppliers of seed and special diets, the veterinarians. We spend a bundle on transportation, advertising, specialist publications, toys, videos, communications, attending conferences, club membership, visiting zoos, employing helpers, buying insurance and other products and services. It's a huge, lucrative and growing business, not only in the USA, but around the world. Only the parrots - the billion dollar birds - can generate such interest and profit.

It is undeniable that we lavish money on the parrots - but only the ones in captivity. For the birds in the wild - some of which are likely to be the progenitors of our precious aviary and pet birds - the majority of us have stony hearts and closed wallets. It grieves us to say so, but it is the unpalatable truth.

Let us propose that the birds in the wild should no longer be the poor relations of the parrot world.

Many of us in aviculture are fond of saying we love our birds, and would do anything for them. Here, then, is a wonderful opportunity to express our appreciation for the benefits the parrots bring to us, by putting some cash into the preservation of these birds in the wild. Rosemary Low has suggested that every time we sell a bird, we should send 5% or 10% to the World Parrot Trust. Needless to say, we think this is a great idea, but it doesn't seem to have caught on just yet. If it did, our work around the world would be able to expand dramatically.

For environmental charities and foundations seeking to help cost effective wildlife conservation, the World Parrot Trust should be seriously considered for funding. Business corporations can use the Trust's established credentials and intimate knowledge of the parrots' conservation needs to adopt an endangered species and achieve significant public relations benefits. Bird clubs and concerned individuals can support us knowing that we are essentially a volunteer organisation which keeps administrative costs to a minimum.

Of course, in helping parrots survive in the wild, we are, at the same time, achieving broader objectives. The parrots act as ambassadors for the whole of nature, bringing attention to other less prominent species, and assisting the preservation of habitats. The parrot's ability to communicate the crucial importance of sustaining biodiversity has hardly been used; perhaps this is a new task for the Trust when funds allow. So please do all you can to help the World Parrot Trust meet its particular aims: nothing less than the survival of every parrot species in the wild, and the welfare of every individual bird.

A PARROT WITH A TINY DISTRIBUTION AND A BIG PROBLEM

Will illegal trade wipe out the Red-tailed Amazon?

By Paulo Martuscelli

The Red-tailed Amazon *(Amazona brasiliensis)* was first made known to science by Natterer, who found it on the northern coast of Paraná state, in southeastern Brazil, in 1821. After decades with no news on the species a few individuals without known provenance reached the London Zoo at the end of the last century, more or less at the same period that the late Ricardo Krone collected two individuals in southern Sao Paulo.

The species was only recorded again in 1934, when C.A. Camargo found it at Cananéia, at the southern coast of Sao Paulo. In the meantime a few individuals reached trade, but the exact range and habitat of the Red-tailed Parrot remained a mystery.

Between the late 1970s and early 1980s bird traders , stimulated by the rarity and commercial value of such a prize, and after considerable efforts, managed to locate the stronghold of the Red-tailed Amazon and havoc began. From an estimated total population of 4,000 individuals in 1989, censused by P. Scherer-Neto, there were around 3,000 birds in 1992, a catastrophic decline that continues now, as trapping has made population recruitment virtually nil.

Only at the Cananéia municipality, which covers 25% of the species' range, 356 birds, mostly nestlings, were captured in the 1991/1992 breeding season to feed the traffic. Also, more than 25 nests that were being studied were robbed when they had from eggs to few days-old nestlings.

Besides affecting directly the birds, the capture has diminished the availability of nesting cavities, always damaged when nestlings are robbed. During the last breeding season parrots that used the most poached areas nested in arboreal termitaria, the first time such an event was recorded.

The species is very vulnerable to such heavy levels of poaching due to its very limited distribution and ecological needs. The Red-tailed parrot is confined to a 250km long by 30km wide stretch of the coast of Paraná and southern Sao Paulo states, an area dominated by mangrove swamps and lush humid forests that grow on sandy soils between the sea and the coastal mountains of the Serra do Mar massif. In a 4Km stretch one may find up to seven vegetation types, ranging from swampy forest to low, almost xeric bushy vegetation.

The region's most striking feature is the dynamic and complex network of channels and islands that produces a mosaic of habitats that the parrot explores, making daily movements among the different vegetation types, both for feeding, breeding and roosting. The very complex mosaic of different vegetation communities found in such a small region is found nowhere else, and agrees with the parrot's distribution. We believe that such habitat heterogeneity is a key factor in determining the Red-tailed Parrot distribution, and also accounts for the high biodiversity of the region. It is home to at least 435 known bird species, several of them threatened or endangered, and also several endemics like some freshwater fish, the recently described Restinga Flycatcher *Phylloscarthes kronei*, also the newly discovered Black-faced Lion-tamarin.

The Red-tailed Parrot began to be better known in 1982, when Pedro Scherer-Neto started a research project. Later, in 1989, Paulo Martuscelli joined the project. Since then the ecology of the species, its habitat requirements, breeding biology and population trends have been studied. Now, the research team is mapping the key areas for the species conservation, its minimum requirements and habitat management, including experiments with improved natural and artificial nesting cavities.

An education program developed by Miriam Milanelo began in 1991, aimed at the local people that live in the key areas for the parrot. The program is directed mainly to the children, who are the most important nest-robbers, to try to raise their awareness to the fact that the parrot, like themselves, are native to the region and live nowhere else.

The team findings have been instrumental for defining the sites of proposed reserves that would complement the present network of protected areas. It has been realised that none of the parrot populations is entirely protected by the 12 existing reserves. The creation of new reserves, nevertheless, has been hampered by building interests in the area, and the lack of institutional support and funding.

Despite the considerable economic interests in the parrot's range and the menace of habitat destruction by building interests (mainly summering and beach-fronted homes), the most important factor that endangers the species is illegal trade. Despite being protected by Brazilian law and being listed in the CITES appendix 1, enforcement is almost nil, and trade has reached such a point that the value of Red-tailed Parrots offered for sale in the Brazilian black market has fallen from U$1,500 in 1991 to U$500 today, due to the large number of parrots being offered. Nevertheless, due to the competition among poachers for the nestlings, they have recently begun to catch adult birds.

International trafficking accounts for the larger share of poached parrots, that reach up to US$2,500,while the nest robber earns around US$30. Most parrots are smuggled to Europe through Germany, and to the USA. All Red-tailed Amazons in the hands of aviculturists around the world were illegally exported from Brazil, despite the claim that several are captive bred. Actually, there is no proven record of captive breeding of this species by legitimate aviculturists. Some of the people that claim to have bred the Red-tailed Parrot, besides robbing young nestlings a few days old (see photo) also developed the practice of robbing viable eggs from the nests and artificially incubating them. So besides "traditional" smugglers there are well-known Brazilian aviculturists licensed by the government who are laundering wild-caught parrots as captive-bred and exporting them, but without official consent.

One such person recently advertised "captive-bred" Red-tailed Amazons for sale in the North American market. Other notorious smugglers are a couple of partners who send the parrots from Sao Paulo to the Canary Islands and

Paulo up to his knees in typical Red-tailed Amazon habitat. *Photo: D. Waugh*

also to a famous bird park in Germany. Nevertheless the greatest smuggling routes still need to be evaluated.

The survival of the Red-tailed Amazon, considered the most endangered amazon parrot in South America, can only be assured if there is a greater concern by the international authorities and all commerce in the species is banned. A start could be banning all transportation of Brazilian parrots by airlines, and the identification of the markets.

Aviculturists, despite claiming that their hobby is a tool for saving species, have been responsible for the situation of most threatened parrots. Among the Brazilian parrots, they have virtually extinguished species like Spix's Macaw and are working hard to put the endemic Red-tailed Amazon in the same situation. If nothing is done now, both to stop the traffic and protect the parrot's unique habitat, in an effort that must be supranational, soon we will see another species vanish from nature, with only a handful of caged individuals jealously guarded by a few vile people remaining.

Readers will note from Dr. Martuscelli's article above that he has vehement views about the theft of Red-tailed Amazon parrots from the wild. I know that he and other Brazilian conservationists believe that those holding such animals outside Brazil - which made the export of its native animals illegal in 1967 - should be required to explain how they come to be in possession of critically endangered species such as the Red-tailed Amazon, the Golden Lion and other Tamarins, and for that matter, Spix's Macaw. Failing a satisfactory explanation, they say, these animals should be returned to Brazil.

We asked our Research and Management Consultant, Dr. David Waugh, to visit the Red-tailed Amazon's territory and give us a report and recommendations. This follows, together with David's excellent photographs. It is clear that urgent work is needed, and that there are knowledgeable and motivated people in place to carry it out. All that is lacking is the funding, and at this moment in time the World Parrot Trust has no funds available.

If you can help in any way, please get in touch with me. Any club, business, foundation or individual can 'adopt' this species, and participate in saving one of Brazil's most important and beautiful parrots.

Michael Reynolds

Confiscated Red-tailed Amazon chicks. *Photo: Paulo Martuscelli*

A Report from the field

By Dr David Waugh, Research and Management Consultant, World Parrot Trust

In Brazil, the parrot with the red tail *(Amazona brasiliensis)* is known as the parrot with the purple face *(papagaio da cara roxa)*. Whichever end of the bird you prefer, it is considered one of the most endangered parrots of the Neotropics and in urgent need of help. Two Brazilian field scientists, Paulo Martuscelli and Pedro Scherer Neto, have been working within the geographical range of the species (in Sao Paulo and Paraná States respectively) and deserve as much support as possible to continue their front-line conservation action. Paulo's report gives a taster of the grim situation, but May 1994 found me wading waist-deep in water and mud to gain first-hand experience of their efforts to save this beautiful species from extinction. Despite the distinctly waterlogged feeling that I enjoyed for a week, I could not fail to be impressed by the richness and beauty of the coastal habitat of this parrot species.

Due to their importance for roosting and nesting, several islands throughout the range are crucial for its continued survival. The islands are also used by the red-tailed parrot for feeding, but sea-level maintained areas too are utilised by these birds for feeding at certain times of the year. Paulo, and another Brazilian parrot biologist Carlos Yamashita, gave me their estimate of 190,000 hectares of originally favourable habitat for the species, with currently only 80,000 ha left which contain all the essential components of the habitat matrix. On the broadest scale, the coastal sea-level forest occupied by the red-tailed parrot would simply be labelled part of the Atlantic rainforest. However, they are clearly different from those occurring at any elevation in the mountains. They are also sometimes generically labelled restinga forest (or coastal sand-ridge forest), but this too disguises their amazing variety. One of the most important trees in this forest for roosting, nesting and feeding is the guanandi *(Callophylum brasiliense)*, which may predominate in some dryer areas.

A very distinctive habitat type also favoured by the parrots is called caixetal or swamp forest. Permanently inundated with flowing fresh water, the principal tree species is the caixeta *(Tabebuia cassenoides)*. At any point in time, a good proportion of the caixetas will be in old age or dying and provide an extraordinarily high density of nesting cavities for the parrots (up to 40 cavities per ha in comparison to an average of only 20 per ha found in other sites in the tropics/sub-tropics). The final obvious habitat is that of mangroves which cover a substantial area of the parrot's range and remain largely unaltered. Mangroves form a food source for the red-tailed parrot, but other habitats usually take priority. They are never used for nesting because suitable natural cavities do not occur.

Effective management decisions for the conservation of any threatened species require good information derived from field investigation. In the case of the red-tailed parrot it seems that sufficient information exists about its basic biology to undertake conservation action which will work. However, important gaps remain, and to improve their accuracy of estimates of population size and decline, Paulo and Pedro are continuing with their observations and want to apply radio-tracking of birds to determine how much overlap occurs, especially at roost-sites, between groups of birds using different areas. There are two immediate indicators that suggest a limitation on the amount of overlap. The first is a noticeable difference in vocalisation dialect between the birds north of Ilha do Cardoso in Sao Paulo State and those south of it in northern Paraná State. The second is that observations show groups of the red-tailed parrot to be markedly conservative in their use of nesting, roosting and feeding sites, sticking to these traditional areas even when substantial alteration of habitat may have taken place.

In fact, it seems that all known areas of habitat used by this species have suffered and continue to suffer various forms of degradation and disturbance,

except for the group of about 100 which uses about 2,000 ha of suitable habitat on Ilha do Cardoso. This Sao Paulo State Park has an ecological station which serves a constant protective function. The Ilha do Cardoso sub-population of the red-tailed parrot has remained very even in number for many years, and thus has an important comparative function for the other, disturbed sub-populations.

Until now, the method of estimating the population has been by counts of parrots flying to and from known roost-sites. With systematic coverage of all areas with known suitable habitat, very few groups of birds should be missed. The birds generally fly high on their roosting and feeding flights, and thus the flight-lines are relatively obvious. A further critical aspect is an estimation of the productivity of the population, and a crude but important estimator relates to the family sizes of parrots flying to and from the roosts, i.e. normally any fledged young of the year will be flying with their parents post-breeding season. Currently the vast majority of family sizes are two, i.e. the adult pair which has failed to produce young (due largely to nest-robbing). It should be noted of course that this information is a lot less about what influences productivity than can be gained from direct observations of nest-sites, but these imply much more effort and time and should be tackled after the implementation of more urgent conservation measures. According to Paolo the Ilha do Cardoso sub-population usually has about 30 flying young (from about 12 pairs) immediately after the breeding season.

The red-tailed parrot is fully protected under Brazilian law and is listed in appendix 1 of CITES. To transact specimens is an offence in Brazil. Those who do transact and maintain in captivity this species appear to be wealthy, well-connected and powerful people and scrutiny of their activities by appropriate enforcers of the law can be difficult. Some of the offenders apparently are publishing in avicultural magazines outside of Brazil that they have successfully bred this species in captivity (using photographs of small chicks recently taken from wild nests), in an attempt to lobby for a lifting of the ban on transactions of the species. As Paolo has high-lighted in his article, the robbing of nests represents the greatest single threat to this species at the present time. The responsible conservation community internationally can certainly legitimately challenge articles that might appear purporting to prove captive breeding of the species in Brazil.

The people who rob the nests are fisherman local to each nesting area, although apparently the native Indians responsible for nest-robbing in north Paraná range more widely in that state. Furthermore, not all fishermen rob nests. Within each area there are fishermen (and their families, since the boys of the family scale the trees, especially the caixetas likely to topple under weight) who have made it their business to rob nests. They supply the chicks as pets to local people (there are records of this species as a local pet from the 1930's and 40's) and also on order to the wealthier collectors and traffickers mentioned above who live nowhere near to the source of supply.

Two points emerge to indicate an increasing demand. Firstly there is an increase in competition between different nest-robbers in the same area such that chicks are being taken at an increasingly earlier age (with attendant higher mortality because people do not know how to care for them properly). Secondly, traffickers with incubators have started to request the taking of eggs (but even if the pair lays a replacement clutch, so too will these eggs or chicks be taken). This continual absence of recruitment to the wild is inexorably leading to the existence of an old-age population of this species.

Currently, the price per chick to somebody in the local community may be US$30, and to the dealer intermediaries US$100-150 (who can resell for US$1,500). With reference to the above, recently prices have been coming down which may indicate over-supply (likely to be a temporary situation without some more effective conservation action). Of course, the worst related aspect is eventual exhaustion of the supply, and as an example the figures that Paolo has supplied for the important Ilha Comprida are: 1991, 50 chicks supplied to the market, 1992, 15 chicks, 1993, only 8 chicks (these numbers are not related to natural factors adversely affecting the chick production).

It may well be time to apply the poacher-turned-gamekeeper principle whereby certain fishermen and their families who are the worst nest-robbers are effectively taken out of circulation via economic incentive, at the same time with their awareness of the consequences of trying to cheat the system. An important point to make is that nobody within these coastal communities is at starvation level, and the selling of parrot chicks is just to make a bit extra. When the fishing season is particularly good a fisherman's family may not find the time to rob nests. However, in a normal year there occurs a "lazy period" when the family will turn its attention to the taking of chicks. Currently a local fisherman makes about US$80 per month. The robbing of nests takes place largely between November and February, and thus an offending fisherman could be provided with economic incentive to ensure that all nest-sites he knows remain unmolested.

As regards the protection of habitat, throughout the entire range of the species is a patchwork of areas of differing protection status, including none at all. The State Parks have the best protection, and thereafter follow an array of federal or state areas with differing success in the application of protective measures. In the areas that have no form of protective status, severe degradation of habitat has occurred. I saw examples of this at Cananeia and Peruibe, where feeding and nesting are no longer possible, but the traditionality of the red-tailed parrot is so strong that groups of birds continue to roost at those places in small fragments of habitat. In general, however, there is no widespread devastation of the habitat now, and the different layers of protection in recent years probably precludes sudden massive change. The principal cause of habitat destruction previously was clearance of land for vacation property development. For example, Peruibe is a town of 8,000 people which swells to accommodate over 40,000 during the holiday season. Similarly, the north of Ilha Comprida has been heavily developed over the years, such that a community of 3,000 people is annually swamped with 50,000 tourists.

There can be other undesirable side-effects of run-away tourist property development. On Ilha Comprida for example, before it gained its current protection status, the developers bull-dozed many avenues through the restinga and other habitats right to the south of the island ten years ago. Today this permits access to nest-robbers who might not have otherwise been able to find nests so readily. It also facilitates the illegal cutting of *Euterpe* palms (for palm heart salads). Apart from the wilful destruction of nest-trees by nest-robbers, there is also continuing illegal selective removal of certain tree species which are important to this species. Caixeta trees are removed because the softness of the wood renders this species very useful for the pencil industry and for the carving of artifacts locally. The guanandi, a tree with very hard wood, is the traditional choice for the making of canoes. Even though more of the fishermen may be using boats of other styles and materials these days, because the making of guanandi canoes is viewed a traditional (and therefore inalienable right) the cutting

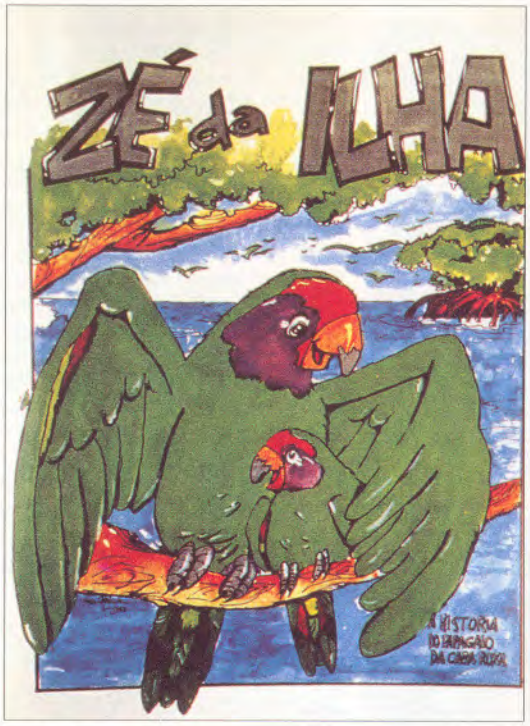
Village of Guarequecaba, Paraná. *Photo: D. Waugh*

continues. Changes in attitudes forged through education are necessary in this case.

In terms of combating the effects of natural nest-site destruction, and trying to increase the number of available nesting sites through provision of nest-boxes, there are several points to make. Firstly, it will be important to already have effective guarding of sites which the parrots have traditionally used and have been subject to robbing in the past. The next point is that the nest-boxes should be of a design adequate to withstand the adverse climatic conditions that can occur during the nesting season. There are years of excessive wind and rain, worst in August and September, but extending into the breeding season such that nest-boxes get flooded if they do not have proper drainage. Furthermore, too much humidity in the nest encourages warble flies and increases chick mortality. One large part of parrot habitat deserving of experiments with nest-boxes is the mangrove and Paulo believes that the parrots would find and use boxes erected in this habitat.

As regards extent of knowledge about the red-tailed parrot and its endangered status, apparently some of the guard forces assigned to protected areas know very little, but one can also generally apply this over most of the local community. A simple example of the latter is the response of school-children to one of the questions in a questionnaire survey completed by Miriam Milanelo, Paulo's wife who teams up with him to conserve the papagaio de cara roxa. All of the children, 100%, said that if they found a parrot in the forest they would take it home and put it in a cage to keep it safe, because the forest is a dangerous, cold, wet place for parrots! Locally, nationally and internationally, educational efforts and publicity campaigns have been limited due to lack of funds but, stemming from the work of Paulo and Miriam, some materials are now ready for a rapid expansion in this critical area of endeavour.

Orchid (sophronites ceruna), endemic to the coastal forest in S. E. Brazil
Photo: D. Waugh



Children's story book. *Photo: D. Waugh*

Educational poster. *Photo: D. Waugh*

It is absolutely crucial that good educational programmes are implemented *in-situ*, and that they lead to people within the local communities developing a sense of pride that the papagaio da cara roxa occurs where they live. It is not that the local people are ignorant of its existence: for instance, everybody in Cananeia knows the papagaio-da-cara-roxa because a clamouring flock flies low over the principal avenue twice a day. An example to develop a sense of belonging is the message on the poster produced by Paolo and Miriam, "Filhos desta terra" or "Sons of this earth", which refers to what the local fishermen call themselves. The intention is for everybody to refer to the parrot in the same way. Miriam's programme will include schools and teacher involvement, events aimed generally at the local communities, and information aimed at visitors to the area, particularly at points of ingress to the islands. At the same time, the provision of training and refresher courses for the various guard forces would greatly help them to contribute to the educational campaign, as well as improve enforcement.

With increasing tourist activity within the parrot's range there is mounting risk of disturbance of birds at nesting, roosting and even feeding sites without due care in planning for such influxes. An alarming example was the activity of one tourism operator who took tourists to the tiny Ilha de Pinheiro (where an estimated 80% of the Paraná population roost) and frightened the parrots out of the trees so that his clients could see them fly! Luckily, there is now a permanent guard-post there.

As regards other protective actions to date, the most threatening of all activities, nest-robbing, has been extremely difficult to prevent, due mainly to insufficient protection status of the habitat (and low penalties) and the impossibility of very few conservation workers to be in all the right places at the right times. The technique of turning poacher to gamekeeper is one of very few options for immediate positive influence on the situation, followed by improvement in protection status of habitat, and activity. Illegal trade and the traffickers are again difficult to police with such limited man-power, coupled with the political clout of many of the culprits and abetted by the local communities completely under-valuing the resource. The field workers want to establish a legal action net-work which can result in convictions which have a real deterrent effect.

Tree destruction has been as difficult to control as nest-robbing although occurring over a smaller area of the geographical range of the parrot. The implication is for more obvious patrols in the areas worst affected in advance of a longer-term campaign to change attitudes. As regards more general habitat protection, if fed the appropriate information by Paolo, Pedro and others, the relevant state authorities can continue to petition for the up-grading of protection for areas important for the red-tailed parrot, as well as to try to prevent proposed adverse developments. The tourist industry, in mass form lacking much regard for nature, is an example to beware of because of its continuous expansion in the zone.

Captive breeding and reintroduction of this species poses considerable difficulties. According to the Brazilians, no captive red-tailed parrots anywhere in the world are legal and even if this area of contention can be dealt with, a full-blown captive breeding programme and reintroduction would be very costly. An alternative with current and future confiscations might be to make a staged liberation of the captive birds, using known roost-sites that are easier to monitor. As with introduction of captive-bred birds, none of the individuals for liberation would have experience gained from parents during the year following fledging, and the most critical appraisal of disease risk would be necessary. However,this could represent a possibility to learn a lot and perhaps to apply to the release of other psittacines. Another, less risky, alternative is to keep them captive, but without any attempt at captive breeding, perhaps to be used for education.

One way that people in small communities can come to value their living resources is through revenue generated from nature

tourism. At present, nobody within the range of the red-tailed parrot values it in this sense, but many people already benefit from tourism and would quickly realise the connection between the inflow of money and the need to ensure that this species remains free-living in the area. Thus, ecotourism is not yet developed, but could be with the right safeguards for the parrots and with mechanisms to ensure that ecotourist money remains within the community and doesn't all get repatriated to North America, Europe or wherever.

The natural and historical assets that this area has should form the advertiser's dream. The biodiversity of the region is very high, for example with 430+ bird species recorded on Ilha do Cardosa (it has a couple of mountains) and 293+ on Ilha Comprida (no hills!). It is an internationally important area for wading birds. Endemism in the region for birds runs at 40%, and for amphibians 70%. Many of the pet red-tailed parrots within the communities are full-winged and often join wild flocks temporarily before returning to the houses: they present wonderful photo opportunities for tourists (and incidentally would make for an interesting study).

If that wasn't enough, this is the area of the Black-headed Lion-tamarin *(Leontopithecus caissara)*, only discovered in 1990 and one of the rarest of the world's primates. At the other end of the scale, many people go to Peninsular Valdez in Argentina to see the southern right whales, not realising that they pass by Ilha Comprida on their migration. And if you don't see a whale you will be guaranteed to see dolphins, *(Sotalia brasiliensis)*. In three days I had seen perhaps 100, some of the pods playing in shallows very close to shore. The coastal forests must also be a haven for the botanists, especially in the variety and endemism of bromeliads and orchids.

Historically the area can boast many sambaqui: prehistoric sites of mountains of shells deposited by Indians 3-8,000 years ago. These are found in the forest and are all protected by law. Nearer to us in time, the town of Cananeia, 1536, was one of the first founded communities in Brazil, and likewise Iguape is almost 450 years old. At the time of their founding, these ancient towns must have echoed daily to the calls of the beautiful papagaio de cara roxa, and it is our sincere hope that this will endure from the dedicated work of the Brazilian team and the international support that they deserve.

Recommendations for action

By Dr David Waugh.

The Red-tailed Parrot Amazona brasiliensis (A.b.) is considered to be one of the most endangered parrots of the Neotropics. The World Parrot Trust (WPT) is an outside organisation concerned to help, and has recently received requests for financial help from two separate field scientists working within the geographical range of the species. To ensure that its funds support the practical measures which will most aid the conservation of A.b., the following recommendations are made to the WPT as a result of my field visit, 14-20 May 1994.

Funding for:

Vigilance against nest-robbing

Even with more government-funded guards in the areas of risk, it would be prudent to cultivate an unofficial guard-force. This can be based on the poacher-turned-gamekeeper principle, whereby certain fishermen and their families who are the worst nest-robbers are effectively taken out of circulation via economic incentive, at the same time with their awareness of the consequences of trying to cheat the system. Further to this, there is a need for extra support to get more biologists into the field who can heighten the vigilance level overall, and can increase the frequency of interactions with converted fishermen so as to provide encouragement and keep an eye on activities.

The provision of nest boxes and vigilance against tree destruction.

More vigilance is required to minimise the destruction of trees important for nesting and feeding. A system of rewards or the funding of alternatives to the cutting of trees is not recommended to the WPT. Provision of nest-boxes is a measure worth supporting, but it is important to already have effective guarding of traditional sites.

Education programmes and publicity campaigns

It is absolutely crucial that good education programmes are implemented in-situ, and that they lead to people within the local communities developing a sense of pride that A.b. occurs where they live. Implementation of a model programme developed over the past three years by Miriam Milanelo can take place immediately with adequate funding, particularly if the funds permit her to hire helpers. The programme will include schools and teacher involvement, events aimed generally at the local communities, and information aimed at visitors to the area, particularly at points of ingress to the islands. The WPT may also wish to engineer further publicity campaigns outside of Brazil to aid the protection of A.b.

Researching aspects of the ecology of A.b.

Effective management decisions for the conservation of any threatened species require good information derived from field investigation. In the case of A.b. some radio-tracking work would be very useful to confirm population estimates, to determine average areas over which the birds forage (and habitat types) and to see if there are overlaps between different sub-populations in their use of areas.

Training of A.b. conservation programme personnel

There may be instances where biologists, veterinarians, educators or others working with A.b. in the field have opportunities for training to improve their contributions. In some of these instances, the WPT might be able to help financially, materially or logistically.

In addition, two further actions by the WPT are recommended which do not imply direct funding to Brazil:

Red-tailed Amazon feeding on schirus terebentifolias. *Photo: D. Waugh*

Measures against illegal trade and the traffickers

The WPT can encourage the responsible conservation community internationally to challenge (untrue) articles that might appear in various publications purporting to prove captive breeding of the species in Brazil. Furthermore, this same community can produce its own articles publicising the true situation, and can write to the relevant Brazilian authorities to "remind" them of the substantial outside interest in the conservation of the species and the negative impact of dealers and collectors.

Up-grading of habitat protection status

In relation to the possibilities for improved protection of habitat through legal changes in status of the land, the WPT and other outside organisations can organise to lobby the relevant people and government entities. Likewise, with sufficient warning and verifiable information from the key Brazilian contacts, the WPT, etc, can muster protests against planned developments in the region that are potentially harmful for A.b.

I recommend the WPT to encourage Paolo Martuscelli and Pedro Scherer Neto to submit detailed proposals for the funding of A.b. conservation projects. I also recommend that I review these proposals to match them against my direct experience of the area and the people involved.

HYACINTH MACAWS

By Kashmir Csaky (USA)

When we rounded the curve in the road, my heart nearly stopped. A car was in our lane headed straight for us! My friend, Al, began braking as my husband and I braced ourselves for the inevitable collision. An eternity passed before our pickup truck came to a stop. We were poised with our bumper a hairsbreadth from the other car. The two vehicles then slowly backed away from each other and continued their separate journeys. Only then did a feeling of relief flow through my body. It was not the realisation that my human companions and I were now safe that alleviated my sense of panic. I was at ease because the pair of Hyacinth Macaws I just acquired were unharmed.

My stomach had been tied up in knots for days. I had purchased a pair of very rare and expensive birds. The excitement and fear of obtaining something so valuable was overwhelming. I knew that the fertility rate in Hyacinths was low and that egg and chick mortality was high. I had taken on a tremendous responsibility. Now, I questioned if I could make myself equal to that obligation.

I reasoned that I could do no worse than the previous owner. The birds had been moved to two different locations in the past year. They were kept in a small cramped flight with few perches. The barn they were in lacked ventilation and good lighting. There was an obvious rodent problem and their diet was very poor. They shared the barn with two other pairs of Hyacinth Macaws and a pair of East African Scops Owls. The owls hooted all night and the macaws screamed all day. I am sure that none of the birds slept well. In spite of the poor conditions, all the birds appeared to be in good health.

The three pairs of Hyacinths were for sale. None of the pairs had produced any eggs in at least two and half years. One pair had laid several clutches of clear eggs, while another pair had produced four babies over a two year period. The pair I selected had laid a total of four clutches of eggs. All of the eggs in the first two clutches were clear. One chick hatched from the third clutch and one chick died during hatching in the fourth clutch. Something inside me told me to buy the pair that had produced only one live baby. I felt they were just getting started and would be prolific.

The first thing that I did was to give them names. The male I called "London", after my favourite city and the female "Paris", another favourite place of mine. I felt it was important that the birds knew they were not merely breeders to me, but individuals that I respected. Giving them a name was the first step in that direction.

I had bred and raised many other large macaws, yet I was not prepared for the Hyacinths. They seemed so big, loud and intimidating. I am short, small and was very concerned about what damage London and Paris could do to me. My distress was heightened when I had to reach into their enclosure to feed them. The flight is suspended and the door for their food tray is rather high. I had trouble getting their heavy food bowl into place. I would approach the flight, balance the food bowl on top of my head, open the door and slide the bowl in as fast as I could. London would lift up the feathers on the top of his head, making him look very much like a crazed rap singer. He would emit a horrible, terrifying noise and then bound across the flight at me, striking just as I moved my hand out of the way. One morning I did not move fast enough. The side of his beak brushed against my hand. I screamed, I was certain I had lost a finger. He screamed too! I do not know what he thought, yet I knew I scared him. It was as if we were re-enacting the scene from E.T. where the alien and the small child come face to face for the first time.

After that incident we developed an understanding. He will back up and wait on a nearby perch until I put the bowls in their places. Now he only strikes when I am out of the way. If he is overly eager to get his food, I just need to remind him, by calmly telling him to backup. Though there is still some minor aggression, I believe my birds know I love them. This makes them feel very secure in their environment and certainly contributes to the breeding success I have with them. They have laid 22 eggs in the past three years and 21 have been fertile.

Winters in Virginia can be very cold, so I breed my birds indoors. The room that I keep them in is part of my basement - it was my dance studio for many years. There is a large glass sliding door on one side of the room and a large mirror on the other side. I cover the walls near the flights with clear plastic drop cloths. When they become soiled I remove and replace them. The floor beneath the suspended flights is covered with paper from a large roll. The paper is changed every day.

London and Paris share their room with two pairs of Scarlet Macaws. Due to pronounced and sustained displays of aggression, a barrier had to be inserted between the Hyacinths and their nearest neighbours.

Only natural wood perches are used and they are placed so that at least one perch is at a slight upward angle. This arrangement appears to have some benefits and it may have some bearing on their egg fertility. I have been able to observe my Hyacinths copulate on closed-circuit television. During copulation, the male will always position himself at a higher level on the perch than the female. I have noticed this behaviour with all my macaws. Yet, it is much more pronounced with the Hyacinths.

A year and a half after they came here, they laid two perfect eggs. I made the decision to leave the eggs with the parents for three weeks and then remove them for artificial incubation. Two lovely chicks hatched. Within 45 days London and Paris laid two more eggs and two more beautiful baby Hyacinths came into the world.

The author with two of her hand-reared macaws.

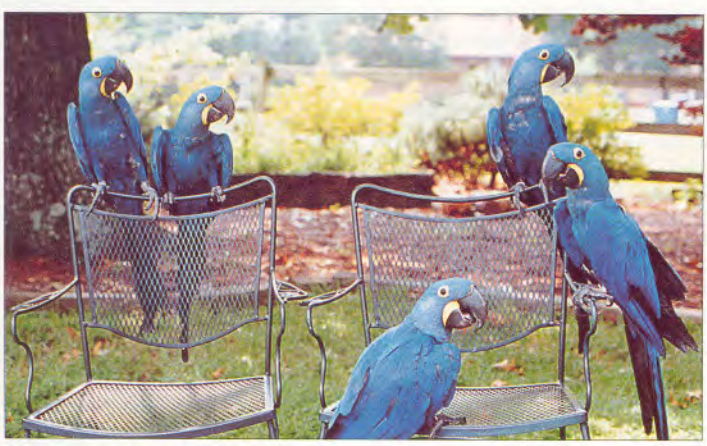
The ensuing year they laid a total of nine eggs in four clutches. Eight eggs were fertile and I was able to hatch five of the eggs. When they laid their third clutch of the season, I decided to allow London and Paris to hatch their two eggs and raise a clutch of babies. Unfortunately, one egg was accidentally cracked about two weeks into incubation. The chick in the other egg was unable to pip through the egg shell and died.

Last year I tried very hard to give the parents the opportunity to hatch and raise their chicks. To my disappointment all of the eggs that were left with the parents died on the day the chicks were due to hatch. Out of eight fertile eggs they laid that year, only one chick hatched. That chick was from the single egg I removed from the nest for artificial incubation.

I am not sure why the chicks have so much difficulty hatching. Perhaps, it is because once they enter the air cell they exhaust the available oxygen quicker than the other macaw chicks or have some other respiratory problem. All but one of the Hyacinth chicks that hatched required assistance.

In one case I was a little too eager to help a chick out of the egg. As a consequence, hatching assistance stretched over 53 hours. I removed part of the shell and left most of the membrane intact, only the chick's head was exposed. When the visible blood vessels had receded, the chick began having grave difficulty breathing. I slit the membrane and the chick fell forward. Her breathing returned to normal immediately. At that point, I saw that there were still many active blood vessels in the small end of the egg. She was not yet ready to hatch and she spent another 12 hours attached to her egg shell before she was allowed to crawl out. Sapphire is now one year and nine months old.

Breeding the Hyacinths has been a tremendous amount of work and heartbreaking at times. However, the rewards have been immeasurable.



A fine group of Hyacinth Macaws. *Photos: Kashmir Csaky*

THE PLIGHT OF PARROTS IN SOUTHERN ECUADOR

By E.P. Toyne, Dept. of Biology, Imperial College of Science, Technology and Medicine.

Since 1990 the parrots of Podocarpus National Park have been the focus of the 'Parrots in Peril' expeditions. The expeditions based from Imperial College, London, chose Ecuador in north-west South America as of the forty-plus parrot species known to Ecuador, six are classified as threatened in ICBP/IUCN's Threatened Birds of the Americas (Collar et al. 1992). Parrots in Peril selected to study three of these species which occur in Podocarpus National Park.

Podocarpus National Park (PNP) straddles the Andes of southern Ecuador covering approximately 146,000 ha in the provinces of Loja and Zamora-Chinchipe. The park was established in 1982 and is named after Ecuador's only native conifer tree genus. The park's climate has resulted in the creation of several vegetation zones. On the east side of the Andes there are tropical forests (1000-1500m). As the terrain gains in altitude, subtropical forest and cloud forest are encountered between 1000-1500m. The park's trees stop growing between 3000-3200m. Above this level there is a harsh climate of low temperatures, strong winds and low clouds where paramo grassland and stunted chaparral forests are encountered. On the western slope of the Andes the park is mainly composed of montane forest (2500-3000m) and paramo. As a consequence of these different habitats the park is an area of high biodiversity. It is estimated that the park contains between 3000 and 4000 plant species, many of them endemic to this region. One plant found in the park, "the feverbark tree" *Cinchona officinalis* is famous for its use in the treatment of malaria. The park may also be one of the last refuges for many endangered species of animals: These include the Spectacled Bear *Tremarctos ornatus*, Mountain Tapir *Tapirus pinchaque* and Woolly Monkey *Lagothirx lagotricha*. Prior to our work one study on the park's avifauna was completed. The results suggest that the park could hold in excess of 600 bird species (Bloch et al. 1991). This would represent over 40% of the bird species known to Ecuador and over 5% of the species known to the world.

The expedition's objectives reflected BirdLife International's requirements in the development of a parrot conservation programme and the need to assess the status of the park. Specifically:

1) Attempt to substantiate Podocarpus National Park as a key site for the effective conservation of three Red Data Book species of parrot: the "endangered" Red-faced Parrot (*Hapalopsittaca pyrrhops*), the "vulnerable" golden-plumed Parakeet *(Leptosittaca branickii)* and the "insufficiently known" White-breasted Parakeet *(Pyrhurra albipectus)* (Collar et al. 1992).
2) Assess the effectiveness of Podocarpus National Park as a protected area by studying threats to its integrity, notably gold mining.
3) Gather basic biological information pertinent to the conservation of the parrots. In addition, the expeditions aimed to compile bird species inventories at all sites visited for parrot activity.

The Parrots of the Park

The Parrots in Peril team visited the park on three occasions; August-September 1990, briefly in November 1991 and March-June 1992. From these trips information was collected on the status, biology and conservation of the three main study species and the other parrots inhabiting the park. What follows is a summary of these results with additional information on individual parrot species distributional ranges from standard references (Forshaw 1989; Fjeldså and Krabbe 1990).

The Red-faced Parrot is probably the rarest parrot in southern Ecuador and was recently judged to fall in the IUCN category " endangered" and listed with other birds "for which urgent action is needed" (Collar et al. 1992). Prior to our work *pyrrhops* had only been seen once at Cajanuma and its distribution and use of the park were unknown. Pyrrhops inhabits the montane, cloud forests of southern Ecuador along the Andean range south to northern Peru and north to southern Columbia. These forests in Loja province are under severe threat of clearance for farming. This makes PNP the most important area in southern Ecuador for the parrot's long term future. During our visit in 1990 we were unable to locate *pyrrhops* in the park, but in 1992 a flock were encountered at the Cajanuma field station (Toyne et al. unpubl.). Surveys here were very difficult due to the impenetrable vegetation and steep nature of the Cajanuma valley and we still do not have a good idea on *pyrrhops* occurrence in the park. In an attempt to assess the parrot's status outside the park the expedition visited the remaining temperate forests surrounding Saraguro in 1992.

Our surveys found them in four of the five forests visited (Toyne et al. unpubl.data). They were normally seen in small flocks of up to six individuals and in two forests detailed information on the parrot's biology: breeding data, vocalisation, roosting habitat requirements, and diet were collected. On several occasions juveniles were observed in flocks and being fed by adults. This suggested breeding in Loja province occurred in the preceding months of February and March.

Threats to *pyrrhops* around Saraguro was mainly the clearance of the temperate forests for pasture. The planned 1994 expedition will investigate the feasibility of purchasing the reserve where *pyrrhops* were found in high densities and presumably bred. This reserve would also provide a refuge for other threatened birds species such as the Bearded Guan *(Penelope barbata)*, Gray-breasted Mountain-Toucan *(Andigena hypoglauca)* and the Golden-plumed Parakeet

A view of Podocarpus National Park

Photo: E. P. Toyne

(Leptosittaca branickii) and could be managed by local environmental agencies such as Promusta and Arcoiris.

The Golden-plumed Parakeet is the park's largest parrot. It is poorly understood but thought to be rare and nomadic (Fjeldså and Krabbe 1990; Collar et al. 1992). In 1990 and 1992 the expeditions failed to locate this parakeet in the park. Instead we found it further north in the temperate forests surrounding Saraguro in Loja province in May 1992. Here a flock of five were encountered flying at tree height across a clearing. Within the park, *branickii* have been recorded near Cajanuma by one expedition member in late 1992. They have also been recorded further south near Yangana (Bloch et al. 1991), all sightings are within the altitudinal range of 2400-3400m. *Branickii* have also been found in scattered localities further north in Ecuador and in neighbouring Colombia and Peru.

The parakeet's main threat in Loja province is the logging of temperate forests within these altitudes. Unfortunately there is no information on the bird's home range and habitat requirements, making it difficult to assess how threatened this parakeet really is or how important the park is for its continued existence in the area. If the importance of *Podocarpus* cones in *branickii's* diet can be confirmed then the southern area of the Park with its high concentration of these conifers might be seasonally important to them. Indeed, the scarcity of records of the parakeets' use of the park might reflect this seasonality.

The White-breasted parakeet *(Pyrrhura albipectus)* is endemic to South-east Ecuador where it is found in three general areas; Cordillera de Cutucù in Morona Santiago province north of Podocarpus, Cordillera del Condor in Zamora-Chinchipe province East of Podocarpus and the Podocarpus National Park locality. In the latter location the expeditions in 1990 and 1992 frequently encountered this parakeet in the upper and subtropical zones of the east side of the park (Toyne et al. 1992). Here they were a common resident and from our observations of juveniles in early September it is thought to breed within the park during May to July.

The expeditions found *albipectus* in new locations around the park, extending the parakeet's known range. The White-breasted Parakeet appeared to be fairly adaptable in its use of habitat as they were found in the partially degraded forest on the edge of the park and only once were they recorded using the pristine forest near the gold mining area of San Luis in the park. But our surveys were biased to the more accessible areas of the park, which due to their easier access had been colonised and therefore, the habitat disturbed. At the Bombuscara field centre the parakeet were commonly observed in flocks of up to nineteen individuals. At this location and the forests of nearby El Limon they fed on seeds, fleshy fruits, berries and flowers of the following families: Tilliaceae, Moraceae, Melastomataceae, Asteraceae and Euphorbiaceae (Toyne et al. 1992).

Around the Bombuscara study area the parakeets were encountered flying fast, just above the canopy. Whilst flying they would call a constant series of rapid "squawks". Whilst foraging they gave repetitive one note calls of either "skee" or "week" with them occasionally combining the two to give a "skeee week" contact call. Prior to leaving a "food" tree one individual in the foraging flock would start calling and the rest would join in, so a clamour of accelerated foraging calls was heard and then they would suddenly fly off. This clamour lasted no longer than a few seconds (Toyne et al. 1992).

White-eyed parakeet. *Photo: E.P.Toyne*

White-breasted parakeet. *Photo: E.P.Toyne*

Albipectus's current status is "insufficiently known" as reviewed by the IUCN with "further protection desirable". The expedition's findings suggest that they are fairly common in the park and that the park is an important protected area for this species. However, populations in the park should be monitored to assess what the effects of habitat destruction from gold mining and illegal colonisation have on their numbers.

The park is home to seven other species of parrot, many of which are wide ranging species and not local to this area. They are:

The White-eyed Parakeet *(Aratinga leucopthalmus)* which is the most wide-ranging *Aratinga* species in South America (Ridgely 1981). The subspecies *callogenys* is found in Ecuador and also occurs in the neighbouring Amazonian areas of south-eastern Colombia, north-eastern Peru and north-west Brazil. Within the park *callogenys* inhabits the eastern lowland tropical forests. Here we have always encountered this parakeet flying high, never perched in trees. This parakeet is also a common pet found in the nearby towns of Zamora and Loja.

The Barred Parakeet *(Bolborhynchus lineola)* was classified as a near-threatened species (Collar and Andrew 1988) but not listed in the recent Threatened Birds of the Americas (Collar et al. 1992) as new populations, particularly in Ecuador have been found. The Cajanuma valley (2500-2900m) of PNP was the southern most record of this species in Ecuador (Bloch et al. 1991) until we recorded this species on the east side of the park within the gold-mining concessions of San Luis. The parakeet is also found in three other regions: Central America (southern Mexico to Panama), north-west South America (north-western Venezuela and the Andes of Colombia and

north-west Ecuador) and Central Peru.

Dusky-Billed Parrotlet *(Forpus sclateri)* has been recorded on the east side of the park using the degraded forests that exist near Zamora and Romerillos (Bloch et al. 1991). Within the park *sclateri* occupies the sub-tropical forests (1500-1800m) which are higher than previously recorded for this species which is primarily a parrot of the lowland Amazonian basin (500-1000m) found in Bolivia, Colombia, Peru, Venezuela, Brazil and French Guinea.

Red-Billed *(Pionus sordidus)* and Blue-headed Parrots *(Pionus menstruus)* are common on the eastern side of the park, inhabiting the upper and subtropical forests within the elevational range 1000-1800m. Both species are wide ranging. The expedition collected information on both species breeding in April 1992. The Blue-headed Parrot nested in a disused woodpecker's nest in a dead tree and a pair of Red-billed Parrots used the deep hollow of a rotting stump (Toyne and Jeffcote 1994). The former nest was robbed with two nestlings taken prior to fledging for sale in nearby towns and the latter nest contained three well-developed nestlings who were close to fledging.

The Speckled-faced Parrot *(Pionus tumultuosus)* was fairly common in both subtropical and temperate forests on both sides of the Andean ridge and frequently encountered at the forest edge. It is currently thought that this species and the White-headed Parrot *(Pionus seniloides)* are probably the same, if so their range follows the Andes from Venezuela to northern Peru.

The Scaly-naped Parrot *(Amazona mercenaria)* is the park's only *Amazona* species. Here it is found in the upper-tropical, subtropical and temperate zones of the park on both sides of the Andes. Very little is known about this parrot despite its wide distribution along the Andes from north-western Venezuela to northern Bolivia. Reports from most countries suggest *mercenaria* to be common and not threatened.

Threats to the Park and the Parrots

Threats to the status of many of these parrots are the very same that will affect the future of the park. Although several of the above parrots are wide ranging the park is an important refuge for the three rare parrots which were of most interest to the expeditions, not to mention other wildlife. The park also provides the main watershed area for Loja province and is therefore very important to the local human populations.

Threats to the status of the White-breasted Parakeet in the Park were mainly from illegal colonists who move into the park and clear areas for cattle ranching or agriculture. Despite finding *albipectus* in degraded habitat the situation needs to be monitored to see if populations decline or adapt to these changes. Habitat degradation in both Loja and Zamora-Chinchipie provinces is one of the greatest threats to parrot populations in this area and makes the park very important if its legal status is respected.

The collection of parrots for the pet trade appears to be local and small scale. Several parrots were encountered in the villages bordering the park, including one *Pyrrhura albipectus* which was offered for sale to us, but no evidence was found of collection for export to other areas or countries.

The greatest threat to the park is gold mining and its resulting impacts (Vallée et al. in press). Some gold mining concessions are up to 11% of the park's area. Concession include much of the Romerillos to San Luis are, where *albipectus* was seen (Toyne et al. 1992). A successful international campaign which used data collected by our expeditions led to the removal of international gold mining companies in 1993 from San Luis. However, since the discovery of gold in the park and due to interest shown by international companies up to 1000 artisanal miners *(petroleros)* have been illegally prospecting at the San Luis location. They bring basic tools and food with them for stays of up to three weeks. They also supplement their diet by hunting the wild animals of the park, including parrots.

The *petroleros* are illegal but still continue to pan the rivers and dig into the hillsides for gold. Once the sediments are sorted they use mercury to extract the gold particles and form an amalgam. They then burn this to recover the gold without any recovery of the mercury vapour. This vapour is inhaled by the miners and also absorbed by the local environment. The waste liquid mercury from the amalgamation process is thrown into the nearby rivers. Some of these rivers serve the densely populated cities and small towns on the outskirts of the park, providing them with their potable water. This uncontrolled use of mercury together with unsatisfactory disposal could poison the wildlife of the area and the human populations. In 1992 the expedition carried out a preliminary environmental impact assessment of gold mining activities in the park. The results of mercury contamination in dust and soil sediment samples revealed alarmingly high levels. It was estimated that at one site, San Luis,

Red-billed parrot. *Photo: E.P.Toyne*

55 kg of mercury were lost to the environment each year. Mercury levels in local stream sediment ranged from 4.6 - 61.2 µg/g, 10 to 100 times higher than usual background levels. Mercury contamination is also high in Loja (1.75 - 4.45 µg/g) where some gold-gold amalgam was burnt (Valée 1992 and Vallée in press). Such data highlight the danger to both the local wildlife and people from small-scale mining operations in the park, furthermore the dispersal and effects of mercury in a tropical ecosystem are worryingly unknown.

Despite all these threats to the park it does have a future. The Loja based environmental group Arcoiris have led an environment awareness campaign informing the local communities of the value of the park. They have also acted as watchdogs carefully monitoring mining developments and other threats the park suffers from. Our expeditions and other scientists have placed a high importance in working with Arcoiris and it is through such collaborations that within the last five years the scientific evidence has built up to substantiate the park's local, national and global importance. The ministry officials in Ecuador will at least have this information to consider when deciding whether gold mining in this area is in the country's national interest or whether the area should be left as a unique refuge for the numerous flora and fauna that it supports. This collaboration between scientists and Arcoiris led to the removal of the small-scale miners in March 1993 by the military police. However, the future of gold mining within the park is still being decided and members of the World Parrot Trust are urged to write to the following organizations stating your support for the removal of mining operations and insist that the park's protected status should be respected.

Ministerio de Defensa Nacional
Gral. de Ejército José Gallardo Román
La Recoleta
Quito, Ecuador, South America.

Ministerio de Agricultura y Granderia
Ing. Mariano Gonzáles
Av. Amazonas y Eloy Alfaro
Quito, Ecuador, South America

INEFAN
Ing. Dipl. Jorge Barba
Av. Amazonas y Eloy Alfaro
Quito, Ecuador, South America

Fundación Arcoiris
Casilla 11-01-860
Loja, Ecuador, South America

Acknowledgements

It is a pleasure to acknowledge the fieldworkers who have contributed to the Parrots in Peril expeditions. They were; Rodrigo Tapia, Angel Hualpa, Fabricio Costa Jr., Arturo Jimenez, Eduardo Cueva, Mark Jeffcote, Jeremy Flanagan, Sachin Kapila, Domitille Vallée and Colin Taylor. I also appreciate the help of the following; the Ministerio de Agricultura y Ganaderia in Quito, Loja and Zamora for permission to work in Podocarpus National Park; Corporacion Ornithologica del Ecuador (CECIA) and ARCOIRIS for logistical support in Ecuador; Jeremy Flanagan for drawing the map.

ST VINCENT PARROT PROGRAMME

Report to World Parrot Trust

By A.G. Greenwood, MA VetMB MIBiol MRCVS

INTRODUCTION

Between 20-26 May 1994 I visited St Vincent on behalf of the World Parrot Trust (WPT), funded by a grant from the U.K. Foreign and Commonwealth Office. The aims of the visit were fourfold:-

1. To determine the sex and health status of the St Vincent parrots held in the government captive breeding project
2. To assess the progress and avicultural management of the project
3. To determine the best way in which further available funds should be spent to support and improve the project
4. To assess the need for continuing external financial support

A previous visit by D. Jeggo and A. Allchurch of Jersey Wildlife Preservation Trust (JWPT) (St Vincent Report 1990) had taken a similar course, but few of their recommendations have been taken up, largely from a lack of external financial support. This report will amplify and update some of the information in Jeggo and Allchurch.

My visit included general discussions and visits to the forest reserves, and a complete veterinary and avicultural review of the in situ captive breeding programme.

BACKGROUND

My visit had been approved by Hon. Allan J Cruickshank, the Minister of Agriculture, and Mr Carlton Samuel, the Permanent Secretary.

Much of the background information was obtained through discussions with the Forest Department and examination of their records. The Forest Department is a division of the Ministry of Agriculture, and has about 35 staff. Brian Johnson is head of the Forest Department (as at the time of Jeggo and Allchurch's visit in 1990) but the then Forest Officer in charge of the Parrot project, Lennox Quammie, was replaced in 1992 by Fitzroy Springer, who underwent training in the UK, at JWPT and the WPT headquarters at Paradise Park.

Wild population and habitat

When last surveyed in 1984, the total forest area of St Vincent was 13000 hectares, and no more than 500 hectares are believed to have been lost since then. Not all of this is suitable parrot habitat or within protected reserves, but in general it appears that the rate of forest encroachment and destruction is quite low. The role of the Forest Department is entirely one of conservation management of the existing forest, which is recognised as providing the island's sole source of water and, through hydroelectric schemes, the majority of its power. A deliberate policy of not building roads into forest areas has clearly helped and there is no commercial forestry on government lands.

Biennial surveys of the wild parrot population are carried out by Fitzroy Springer, with 6 helpers. The census system used is designed to detect trends in the population rather than give an absolute number. Although a population of 4-500 has regularly been quoted for the St Vincent parrot, the basis for this absolute number even in the many published reports of survey efforts seems obscure. Nevertheless, when the 1992 census suggested an increase to about 800 birds it was believed to have been inaccurate, until the same total began to be revealed in the 1994 census (now almost completed). The increase may well be due to the inclusion of new forest areas in the count as well as a definite upward trend in well-surveyed areas.

Street Market, Kingstown, St. Vincent. *Photo: Andrew Greenwood*

Captive programme

St Vincent Amazons have been held at the Nichols' Wildlife Complex in the Botanical Gardens near Kingstown since 1987. Since 1990, when there were 19 birds, the number held there has increased to 34 (plus 2 chicks in the nest). There are also a pair of Vervet Monkeys *(Cercopithecus aethiops)*, a breeding group of about 10 agoutis (probably *Dasyprocta antilliensis)*, two Orange-winged Amazons *(A. amazonica)* and one Mealy Amazon *(A. farinosa)*. The fourth cage in this "local fauna" area is now occupied by a young St Vincent parrot.

The structure of the complex is as described in 1990, except there is an additional "quarantine aviary" used for sick or incoming birds, and two of the three public display aviaries have been opened into one large flight aviary by the removal of wire panels. There are 14 birds in this large flight, and 6 others in the adjoining aviary. Five birds are in the quarantine aviary and four pairs are in the four breeding flights.

Aviary staff at the Botanic Gardens consists of 3 keepers working overlapping shifts (0700-1600h and 1000-1800h), and a nightwatchman, under the management of Fitzroy Springer.

There are some 45 other birds in registered private ownership throughout St Vincent and the Grenadines, which are inspected every 6 months by Fitzroy Springer. I saw five of these birds on the nearby resort of Young Island, owned by Mr V Brown.

There is some confusion in the records about parentage. The main record registered a bird SVG 081 as captive bred in 1988 from 109M x 108F. However, no bird 081 could be located among the group and there was no record of re-ringing (although it was recorded as a female by Jeggo and Allchurch in 1990). The keepers' records and their recollection is that the 1988 bird is 085 Female, which is now in Aviary 4 and that its parents were the Aviary 3 pair, 087M x 111F. Furthermore, the records of ring numbers for 1992 birds have been mislaid.

AVICULTURE REVIEW

Captive breeding success

The distribution of birds in the four breeding aviaries is as follows (all birds carry an open US-type steel ring, marked SVG and a three figure number):-

Aviary 1. 112 Male and 108 Female
2. 103 Male and 104 Female
3. 087 Male and 111 Female
4. 079 Male and 085 Female

Annual production of surviving chicks has been as follows:-

1988 1 (in a group aviary)
1989 0
1990 3 - Aviary 1
1 - Aviary 3
1991 4 - Aviary 1
1 - Aviary 3 (Died at 6 mths)
1992 3 - Aviary 1
1993 2 - Aviary 1
Total 15

At present (May 1994) Aviary 1 has 2 chicks in the nest and Aviary 3 has hatched 1 chick (DNS) and has another clutch of eggs, at least one of which is fertile.

Aviaries 2 and 4 have produced infertile eggs since 1991 and 1993 respectively, including this year.

Sex, weight and identification

The St Vincent parrots split into 14 males and 13 females (14,13), with an additional 2,4 known sex birds and one unsexed aged specimen. The males further subdivided into 4 immature and 10 mature birds, and the females into 2 immature and 11 mature birds. Care is needed with such interpretations, especially with males, but known age birds correlated with these subjective findings, reinforcing the likely age of sexual maturity at around 5 years.

Of the birds in the breeding aviaries, only 103 (Aviary 2) and 079 (Aviary 4) were sexed to confirm they were males, because of constant infertility in these pairs. This was valuable, as 079 was found to be very fat (1100g) and will be replaced by another suitable male from the group.

With the exception of this bird and another with a fatty tumour (see below), weights varied from 480g - 660g. Most of the birds at 550g or less had some defect which

might have affected their metabolism or feeding ability (see Appendix I) and birds below 550g felt thin. Fat was visible in the abdomen of birds of 650g and over. It seems therefore that an optimum weight range for the species (either sex) is around 575-675g.

The conclusion of the surgical sexing is that all the birds in the complex (except 082) are of known sex and either in breeding pairs or colour banded. The sex ration of almost 1:1 should allow rapid expansion of the population if facilities are provided.

Health status

No birds were found to have papillomata, nor were any other signs of infectious disease or nutritional deficiency found. Certainly, the nutritional health of the flock has improved tremendously since 1990; Jeggo and Allchurch's nutritional advice and the joining of two of the display aviaries by Fitzroy Springer (after a visit to Paradise Park) are undoubtedly responsible for this. It may be that a higher plane of balanced nutrition could improve fertility in the breeding birds. Recording and nutritional analysis of the diet are needed.

Results of the virological tests will be supplied when complete. Tests for chlamydia were all negative.

Health risks

The main potential health threats to the birds are the importation of diseased specimens, poor food hygiene and storage, air or arthropod-borne disease from wild birds or poultry, and food contamination by lizards.

FIELD TRIPS AND DISCUSSIONS

I was able to make two short field trips with Fitzroy Springer, one to the Vermont Nature Trail where we climbed to the Parrot Observation Platform and saw and heard a number of parrots in the late afternoon. The second was to the Congo Valley area on the windward side of the island, where forest destruction is taking place on a private estate. The forest reserve next to this estate still contains a large group of parrots (we saw a flock of about 20 after some rain) and the birds are foraging right up to the edge of the habitat. From these brief visits and discussions with Forestry staff it seems clear that the forest is quite stable (apart from minor incursions) and that it has strong regenerative powers. The truism that tropical forest, once destroyed, cannot support long-term agriculture in its place, nor regenerate itself, may not necessarily apply in St Vincent, where a thick layer of volcanic ash contributes to greater soil depth and fertility, and where agricultural plantations or forest replanting do equally well on the cleared ground. The parrot population is certainly healthy and stable or perhaps increasing and poaching for pets and for export is all but ended. There were no feral introduced parrots surviving in the wild and competing thrashers *(Margarops fuscatus)* are not present (unlike in St Lucia and Puerto Rico).

It seems, however, that little is known of the biology of the wild birds, apart from their feeding habits - nest sites, for example, seem to be undiscovered in most areas and previously known nest sites lost.

I was unable to meet the Agriculture Minister or higher officials in his Department, but we did meet the Attorney General, the Hon. P Campbell, in his capacity as Acting Prime Minister and were able to ascertain that the government remains committed to parrot conservation and to the captive programme, although there are understandable concerns about the increasing costs and long-term aims.

Explaining the rationale behind the breeding programme is rather difficult - the reason for maintaining an expensive programme in the face of an increasing wild population is clearly open to question, and it may be that a PHVA (Population and Habitat Viability Analysis) is needed to clarify the need for an internationally-managed captive programme as an insurance policy, as well as to give the whole programme a long-term rational basis.

It is to be hoped that the advent and use of WPT finance will be seen on all sides as an indication of the sincerity of the St Vincent Parrot Consortium (an international group of zoos which hold St Vincent parrots on behalf of the St Vincent government, and co-ordinate breeding activity), and that fruitful discussions can ensue on the integration of the in situ and ex situ breeding programmes, to the general benefit of the species. Otherwise, there may be serious difficulties in maintaining the long term viability of the captive population because of the lack of provision for surplus parrots.

CONCLUSIONS AND RECOMMENDATIONS

These recommendations should be recognised as personal opinions. Like all individuals in such situations, I have been presented with an overall picture, but my competence to judge some parts is much greater than others.

1. Finance

(a) WPT and the Consortium should recommend and offer to institute some kind of "fund" to raise and provide extra money for both field and captive programmes.

Fitzroy Springer and some of his aviary bred birds. *Photo: Andrew Greenwood*

At the same time, government commitment to core funding should be confirmed.

(b) The present WPT/FCO grant should go towards additional breeding aviaries (there appears to be room on the present site for 2 more blocks of 4 or 5, especially if the "quarantine" aviary is incorporated), to improve services (kitchen facilities such as stainless steel sinks, hot water, electricity and storage bins) as well as limited incubation facilities. The second part should go to interpretive materials and in situ fundraising support (collecting boxes, leaflets etc.). The main requirement for interpretive materials is that they should be weather-resistant and of sound construction. Brian Johnson should be asked to produce a costing for new aviaries as soon as possible.

(c) The Consortium should start putting in some finance, via the fund, preferably with a commitment to regular contributions.

2. Field conservation

I am unconvinced by the accuracy of the numbers. A major population and habitat survey (using volunteers?) is needed to verify the baseline. Much more field study is needed of the parrot; in particular there is a desperate need for a competent tree-climber to locate nests!

3.Captive breeding

The construction of more breeding aviaries is essential. Another 8 would allow 16 of the mature birds to be paired up and could well result in a total output of 24+ parent-reared birds per year. Intensive production with incubation and hand-rearing seems unnecessary at this stage, although cross-fostering into the nests of over-represented pairs (e.g. Aviary 1) could help even out founder representation. A competent Amazon aviculturist could, on the present performance, probably produce 50 chicks a year from the existing stock.

Unfortunately, at present the St Vincent programme has no obvious outlet for such production, except release to the wild, which is clearly not warranted. A joint WPT/CBSG sponsored study of the overall wild/captive situation might help clarify people's minds and maintain the momentum.

4.Additional breeding centres

Any major increase in the population should lead to establishment of satellite projects in St Vincent and outside, to insure against disaster. This would severely stretch Forestry resources, and would have to involve the private sector (e.g. Young Island).

5. Training

One individual needs to be trained by an Amazon expert in incubation, hand-rearing and cross-fostering techniques. The best idea would be for him to visit a UK or US breeder during the breeding season, although this would occur at the same time as the St Vincent season. An alternative would be to fly one of these people out to St Vincent, but all the advantages seem to be in the other direction.

The two veterinarians on the island, Dr Charles Corbette the Chief Veterinary Officer and Dr Collin Boyle the Veterinary Officer are both Cuban-trained, highly motivated and very helpful people. Both do private small animal practice part-time, along with their duties in the Agriculture Department. It would be valuable to incorporate them more closely in the programme, by regular contact with the aviary and inspection of privately held birds. Their private practices make it possible for them to acquire equipment essential to avian medicine (e.g. isoflurane anaesthesia) and we can encourage and help them to do so. The Agriculture Department has some laboratory equipment, but lacks a technician to get it operating and

do the tests. All parrots dying, whether in the aviary, the wild or in private hands, should be autopsied as fresh as possible, and we will provide a protocol and recommended sampling techniques so that examinations can be comprehensive. Histopathological back-up can be provided from UK at relatively little cost.

6. Consultancy

This programme desperately needs external support to keep it running and developing. A system of veterinary, field biology and avicultural back-up needs to be established and regular monitoring visits undertaken. There has been no field biology visit since 1988 (Paul Butler) and no aviculture or veterinary input since 1990 (David Jeggo and Tony Allchurch).

An increasing partnership between the St Vincent Consortium (headed by JWPT, WPT and NYZS) and the St Vincent government would seem to be right. Much closer outside contact with the in situ programme would seem to be very desirable.

ACKNOWLEDGEMENTS

Air tickets and excess baggage allowance to St Lucia were generously provided by Rod Hall of British Airways Assisting Nature conservation. Excess baggage allowance between St Lucia and St Vincent was provided free by Air Martinique.

Professional time and living expenses were funded by World Parrot Trust with a grant from the Foreign and Commonwealth Office. Veterinary materials were donated by International Zoo Veterinary Group.

In St Vincent, great help and hospitality were provided by Fitzroy Springer and Brian Johnson, together with many staff of the Forestry Department. The Minister of Agriculture, Hon. Allan J Cruickshank, and his Permanent Secretary, Mr Carlton Samuel, granted permission for the visit and the FCO grant was kindly administered and expedited by J de Foublanque and Mark Norton, supported locally in St Vincent by the Acting British High Commissioner, Mr Sandy Ferguson.

The Attorney General, Hon. P Campbell, graciously gave up his time for discussions at very short notice. My colleagues, Dr Charles Corbette and Dr Collin Boyle (and his wife Dr Rosemary Boyle), were extremely helpful and Dr Earl Kirby, former Chief Veterinary Officer, gave valuable insights into many aspects of the programme.

Shepherds Ltd. of Kingstown kindly loaned oxygen equipment.

Finally, everyone I came across in St Vincent, whether connected with the programme or not, was immensely friendly and hospitable.

St. Vincent Amazon parrot. *Photo: Andrew Greenwood*

THE STATUS OF GOFFIN'S COCKATOO ON THE TANIMBAR ISLANDS AND ITS IMPACT ON AGRICULTURE

By Yusup Cahyadin, Berth I. Manoppo and Paul Jepson

EDITORS NOTE:
In view of the World Parrot Trust's previous involvement with Goffin's Cockatoo, we decided to part-fund this Birdlife International/PHPA survey. The following extracts from this report reveal a surprising picture.

SUMMARY

1.1 Two parrot species are endemic to the Banda Sea Islands of South Maluku, Indonesia.*C. goffini* is endemic to the Tanimbar Islands and *Eos reticulata* is endemic to the Tanimbar Islands and the small islands of Babar and Damar to the west.

1.2 According to official figures of the Indonesian Directorate General of Nature Conservation and Forest Protection (PHPA), capture quotas for these two species in the ten years up to 1992 were between 8000 and 14000 per annum for *G. goffini* and between 1500 and 2000 per annum for *E. reticulata.*

1.3 *C. goffini* was placed on Appendix 1 of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) at the 8th meeting of the Conference of the Parties in Tokyo, in March 1992.

1.4 This document reports on the findings of PHPA/BirdLife International surveys which were conducted between March and May 1993 on Yamdena, the largest of the Tanimbar Islands. The surveys (which were conducted concurrently with surveys to assess the location of a proposed Yamdena protected area) aimed to assess the status of these two species and to evaluate the damage caused to the local maize harvest by *C. goffini.*

1.5 Population estimates were calculated from data collected using Variable Circular Plot and Variable Distance Transect methodologies. The population estimates given in this report are biased towards the conservative side. Agricultural impact was assessed through direct observation measurements.

1.6 The population of *C. goffini* on Yamdena Island was found to be 347,088 + or - 82,956. Yamdena Island constitutes 61% of the terrestrial range of the species.

1.7 The population of *E. reticulata* on Yamdena Island was found to be 171,898 + or - 46,872.

1.8 Past annual catch levels of c.3.17% of the total population of *C. goffini* and c.1.01% of the total population of *E. reticulata* were clearly within sustainable limits.

1.9 This study indicates that *C. goffini* damages in the region of 2.43% of the island's maize harvest. Overall this is small, but significant. Maize fields average 0.02 ha and, as *C. goffini* travels in flocks up to 280, the damage to an individual farmer's crop can be catastrophic. It is difficult to attribute a monetary value to this damage because maize is a subsistence crop.

1.10 On Yamdena *C. goffini* is caught only when it raids the crop. Sale of *C. goffini* was valuable in relation to local incomes. The value of this trade to villagers has dropped by approximately 60% since the species was placed on CITES Appendix 1.

Tanimbar transect forest team 1993. *Photo: BirdLife International*

People and the trade in parrots from Yamdena

The export trade had three 'in country' steps. *C. goffini* was exported from Indonesia by traders in Jakarta and Denpassar. These traders requested supplies from traders in Ambon, who in turn placed orders with two local traders in Saumlaki and Larat. The Saumlaki traders bought from villagers. Since 1990 the price paid by traders in Saumlaki was between Rp 12,500 (US$6.00) and Rp 20,000 (US£9.50). Typically, the price was set at the low end of this range and the trader increased it if he needed to fill an order quickly. In 1993 the price was Rp 13,500. We were unable to collect reliable data on prices before 1990.

The domestic market for *C. goffini* is believed to have been insignificant prior to 1992. The main market of Java favours songbirds. Cockatoos are generally not very popular as pets in west Indonesia and the "Sulphur-crested" Cockatoos *(C. galerita and C. sulphurea)* are the preferred species. The closure of exports of *C. goffini* came two months after the April meeting of the CITES parties. Because the "catching season" is during March and April (see below) this came into place when significant numbers (estimated at in the region of 2000) were still in the trade chain. Return to the wild was not a realistic option (Jepson, 1993) and these birds filtered onto the domestic market as witnessed by the appearance of C. goffini for as little as Rp 35,000 (US$ 16.50). In June 1994 *C. goffini* was still being sold in this way in Bogor and Carita, West Java (P. Jepson pers obs.). In April 1993 Saumlaki traders were still buying both *C. goffini* and *E. reticulata* but the price had fallen to respectively Rp 5000 (US$ 2.50) and Rp 2500 (US$ 1.20).

In Sub-district south Yamdena (which includes Selaru Island) six villages have cockatoo catchers. Data was not collected from sub-district north Yamdena but the number of cockatoo catchers is likely to be less as there are fewer villages. In 1992, when an export market was still open, villagers received an income of approximately US$ 65000 per annum for *C. goffini* alone if 10,000 were exported. Income to the Tanimbar Islands is derived from government offices and projects (e.g. road building), logging, the sale of copra and the sale of cockatoos. In 1987 the annual cash income per household was in the region of US$ 142 to US$ 190 (MRDP, 1988). Parrot catching is likely to be significant in some village economies.

In the 10 years preceding the suspension of the international trade it seems that a balance existed. While some farmers from a village might suffer loss from cockatoo damage, the village cockatoo catchers would profit. Although we have no information on wealth sharing in Yamdena villages, it would be surprising if the catcher did not share some of his profits with the farmer in whose maize field he had caught the birds. For a farmer with few means of raising cash income (to buy basics such as tools and medicines) the sale of cockatoos might have been preferred to a maize harvest. Data is not available on export levels of *C. goffini* from Yamdena since 1992, however as the sale price of *C. goffini* (and *E. reticulata*) has dropped by ca. 60% the reduction of income into village economies from parrot catching must be significant.

Goffin's Cockatoos in a maize field. *Photo: BirdLife International*

Evaluation of sustainability of past catch quotas

A primary justification for the inclusion of *C. goffini* on CITES Appendix 1 was that trade levels were unsustainable for a species with such a restricted range. The population estimate presented in 6.1.1 shows that *C. goffini* is still a common bird despite a sizeable annual off-take over more than ten years. There are two possible explanations for why this should be the case:

a) *C. goffini* was formerly super-abundant; off-take levels are unsustainable and the population has declined from abundant to common.

b) The population is stable; off-take levels were sustainable.

There is a body of direct and indirect evidence which supports the second explanation. This includes capture methods, species ecology, and the ecological environment of Yamdena. In summary this evidence is as follows:

a) *C. goffini* is trapped:

i) only in non-breeding habitat (agriculture)

ii) during two months of the year

iii) in a small proportion of the species range

iv) using leg snares which result in low mortality rates

b) Villagers reported that *C. goffini* breeds between December and February before the start of the rains, this means fledging of young birds coincides with the maize ripening.

c) Environmentally Yamdena is largely covered with pristine forest. The human population is small and distributed according to water availability and is concentrated along the east coast.

d) Maize cultivation provides the species with an abundant food source at the critical post-fledging period when mortality rates in birds are normally highest.

e) As a component of a depauperate island fauna *C. goffini* may benefit from ecological release from population limiting factors such as inter-specific competition, predators and parasites.

To summarise, although somewhat speculative it appears that *C. goffini* is a naturally common species breeding in the extensive forest of Yamdena. Non-breeding and juvenile birds leave breeding territories and collect in flocks. These are attracted to the narrow band of agriculture along the east coast of the island where they feed on maize crops. Capture is at this point and thus only non-breeding and juvenile birds are being harvested from a large population which is not subject to other pressures.

To conclude, a combination of factors provide strong indication the past catch levels were within sustainable bounds.

Goffin's Cockatoo.
Photo: BirdLife International

Future monitoring

As *C. goffini* is still being exported from Tanimbar for the domestic market it is recommended that the levels of capture continue to be monitored. The most effective way to do this would be to permit export from Tanimbar only by licensed traders and for them to be required to submit records of the number of birds bought and exported from Yamdena.

The wild population should also be monitored, especially if the export trade is re-opened. It is recommended that the local PHPA officer repeat the two transects at the same time each year and collect encounter-rate data, and that in the fifth year the transects be repeated using VCP, and a total population density calculated.

The encounter rate data will alert wildlife managers to any serious declines. The plotting of this, in combination with catch levels and two population estimates, will enable the catch quotas to be set with a high degree of confidence about their sustainability.

ACTION PAGES

THE WORLD PARROT TRUST RECOMMENDS ...

... all its members to consider attending the IAS (International Aviculturists Society) Convention at the Sheraton World Resort, Orlando, Florida, from January 12 to 15 1995.

Over the past two years the IAS Conventions at West Palm Beach have set a new standard for quality of speakers, organisation, and commitment to responsible aviculture and effective conservation. What's more, they have proved that avian conventions can be fun.

With the move to the Sheraton World Resort at Orlando, the whole experience becomes even more attractive. Why not take a 7 or 14 day package to Orlando, and enjoy the delights of Disney World, Sea World and all the other attractions of the area?

For reservations in the USA call 800.327.0363. Outside the USA, write to: Diane Wolff, IAS Vice President, 8230 Winterwood Trail, Roanake VA 24018, USA, or phone or fax (USA) 703.774.1938.

BABY BIRD CALENDAR 1995

No parrot person's home or office should be without this beautiful calendar. The photographs are by Gail J. Worth, who also bred most of the baby birds.

Please order it direct from Gail, secure in the knowledge that the full retail profit will go to World Parrot Trust.

Write to: Aves International, PO Box 2863, Rancho Palos Verdes, CA 90274, USA.

Or fax to (USA) 310.544.4090. Make sure you mark your order 'World Parrot Trust'.

The price, including postage, is $11.95 within the USA, or £9.00 (or equivalent) from the UK or Europe.

TRADE MARK PROTECTION FOR THE TRUST

We have made arrangements for the 'World Parrot Trust' name and logo to have registered trade mark protection in all major parrot countries.

It is important to the trust not to have its name used in vain, or without specific permission.

If any business or individual wishes to use our name, it is essential to obtain permission IN WRITING from the UK headquarters.

"PARROTS IN PERIL" - AN EXHIBITION FOR ALL PARROT PEOPLE.

At the Palms Tropical Oasis, we have drawn visitors' attention to the Trust's activities for more than 3 years. Two colourful "Help Save The Parrots of the World" information boards have netted over £3000 in donations.

A request by Sheila Trigg, a local artist, to exhibit her studies of endangered parrots gave me an opportunity to boost fundraising and membership still further. In addition to her paintings, the exhibition will feature prints, posters, photographs, videos and an abundance of information. The Trust and The Parrot Society have generously donated prints and posters, and Andre Bartschi, recent winner of The Wildlife Photographer of the year competition, has given permission to exhibit his stunning shot of Red and Green Macaws at a Peruvian clay lick. A raffle will offer a chance to win one of two familiar limited edition prints - The Lear's Macaw by David Johnston and The Noblest of Them All (The Hyacinth Macaw) by Nicholas. W.P.T. merchandise will be available for sale, and you can return home with a few photos of our magnificent Blue and Gold Macaws and White Fronted Amazons. The Exhibition runs till Sunday 2nd October. The Palms Tropical Oasis Stapeley Water Gardens, NantwichCheshire (Junction 16 off M6) Phone 0270 628628 for more details.

Valda Fillery.

FEATHERS FOR PANAMA

In PsittaScene Volume 5 No. 2 we asked readers to send any surplus feathers to Sue Armitage. She despatches them to Panama for use by native dancers in their colourful costumes. This discourages the killing of local parrots and yet enables the local people to carry on their traditional customs. At Paradise Park, Kim Hohlweg and Kirstie Jenkin, two of our parrot keepers, collected this magnificent bunch of feathers from the moulting of many parrots in the park. They will be sent to Sue at Ty'r Ywen, Mamhilad, Pontypool, Gwent, South Wales. NP4 8TT.

WORLD PARROT TRUST - USA

Thanks are due to Cadwalader, Wickersham & Taft, a distinguished legal firm based in Washington DC. They very kindly agreed to carry out the tasks involved in creating World Parrot Trust USA, on a 'pro bono' basis - that is, without charge. Having done that, they have continued to advise us on a range of other matters. Especial thanks are due to Susan Mathiascheck, David F. Williams and David Johnson.

FOR SPACE REASONS WE HAVE HAD TO OMIT THE STUDBOOKS LIST

We will print a full list of parrot studbooks in our next (November 1994) issue of 'PsittaScene'. Thereafter we will print an updated list once a year. In the meantime, anyone wanting this information can call us at the UK address, or send a SAE for the list.

WORLD PARROT TRUST BRANCHES – BRIEF REPORTS

BENELUX

The Benelux Branch is a very thriving group with a strong committee of volunteers. During the last year, they concentrated mainly on raising funds for the Lears Macaw and donated Dfl12,118 to this project. Their 9th Parrot Symposium, held in April was well organised and included a wide range of speakers on specialised and topical parrot subjects. They are already well ahead with plans for next year. We are grateful to Jan Assink (Chairman) Juim Fiege, Ruud Vonk, and Pierre Claassens amongst others for their tireless campaigning on behalf of the parrots.

CANADA

Our grateful thanks are due to Leslie Reissner who undertook the onerous task of getting up the Canadian WPT. He and Linda Anderson organised and manned our booth at the recent giant pet show, virtually unaided. Due to re-assignment they now have to leave Canadian WPT, and to fill the gap we would like to hear from anyone in Canada willing to help the parrots. Contact Judith Venning at the UK address, or Desireé Wyant at 85, Guildwood Drive, Hamilton, Ont, L9C 6S3

DENMARK

The Danish branch is run by Line and Michael Iversen. Since its launch nearly two years ago, they have gained many members and represented WPT at events throughout Denmark. Line recently went out to Mauritius to work as a volunteer. With the knowledge she gained on that visit, she is now visiting schools and clubs where she uses her own slides to give a presentation about the Echo Parakeets. Line and Michael keep meticulous records but urgently need a computer to cope with the increasing volume of work. Please contact them if you can help. Support is also being given by Mr. Mogens Stig Andersen through the pages of the magazine 'Dansk Fugelhold'.

FRANCE

There is growing interest in WPT from our French colleagues. Jacqueline and Gabriel Prin publish regular appeals and articles in their magazine 'Les Oiseaux', which results in a constant flow of orders for T-shirts and applications for membership. They also act as bankers for French members. M and Mme Prin recently visited WPT headquarters in the U.K. to discuss further assistance with the Trust. Support and donations have also come from members of the Ornithologique Mondiale pour la France, who donated 15000 Francs to the Lear's Macaw fund and are assisting Mark Boussekey in providing support and funding for his research into the Red-vented Cockatoo. Members of the Club National Des Oiseaux Exotiques and other individuals are also actively supporting the Trust. Our trustee and consultant vet Andrew Greenwood will give a talk about the World Parrot Trust at the Avicultural Conference being held at Arras, N. France, on 12 November 1994.

U.S.A.

As reported recently in PsittaScene, the USA branch is now up and running, administered by Ms Parker Thompson. Non-profit status has been achieved and a bank account opened. Trustees of World Parrot Trust-USA include Dr Charles Munn of Wildlife Conservation Society, and Richard Porter of the International Aviculturists Society. A number of people have volunteered to give talks, distribute literature and sell T-shirts. A donation of $10,000 has been received for the Lears Macaw project and a further donation of $2000 towards 'Parrots in Peril' in Ecuador, from the International Aviculturists Society. The IAS is now an affiliated member of the World Parrot Trust USA and is contributing $15,000 towards conservation funds in 1994. A new source of support has come from the leader of the Jimmy Buffett "Parrot Head" clubs. Jimmy Buffet is famous for his recordings in support of conservation and his fan clubs raise funds for community and environmental projects. Parker will report developments in due course.

U.K. VOLUNTEERS

Every week letters come into U.K. headquarters from individuals who have raised funds for WPT by their own efforts. Special thanks are due to Anna Ballington who is attending events where she sets up her own presentation material, organises raffles and sells goods. One of our youngest members James Rosindell has now raised £145 by making and selling articles in his free time. Thanks are also due to the many Zoos and Bird Gardens in the U.K. who display the WPT notice board and collect donations. In particular we would like to thank Valda Fillery of Stapeley Water Gardens who has now raised over £3000.00.

Our sincere thanks to everyone who has devoted some time to promoting the Trust. If you would like to help but don't know what to do, write to our Administrator, Judith Venning for a list of suggestions. A short video is also available.

INTERNATIONAL NEWS ROUND-UP

EDITORS NOTE: We have devoted this section to several news items covering **'Operation Renegade'** and other anti-smuggling activities. We believe this shows that **(a)** such illegal activities are rife, and **(b)** the international authorities are determined to prevent them.

NETHERLANDS

On 3 May 1994, at Amsterdam Crown Court, Kenny Dekker and Jan van der Gulik, both Dutch nationals, were charged with the smuggling of wild-collected eggs of Black Cockatoos *Calyptorhynchus* (App II) from Australia to the Netherlands.

The outcome of the court case follows more than a year of investigation by the Dutch CITES enforcement team into the appearance of Black Cockatoos on the Dutch market. Black Cockatoos, of which there are five species, are not well established in aviculture and their export from Australia is banned. It was soon learned that an organized network was operating between Australia and the Netherlands; eggs were being collected in the wild and transported by couriers to the Netherlands. The eggs were incubated by contacts of Dekker and van der Gulik, and the young birds then distributed by the pair to bird keepers and dealers in that country. Enquiries by the Dutch authorities were also undertaken with officials in Australia and witnesses and couriers interviewed; one courier turned witness to avoid prosecution and confessed to smuggling eggs to the Netherlands on Dekker's behalf.

In April 1993, 86 Black Cockatoos were seized from bird dealers in the Netherlands and both Dekker and van der Gulik were arrested and kept in custody for two months whilst the investigation continued.

When the case came to trial in January 1994, it was dismissed owing to lack of evidence. However, the Dutch authorities appealed to a higher court and, on May 3, Dekker was sentenced to 18 months' in prison and van der Gulik received a 12 months' (six months definitive) prison sentence; the latter was also ordered to pay Dfl.40,000 (US$12,000) which was based on the estimated profit made from the sale of birds; 22 Black Cockatoos in van der Gulik's possession were also confiscated. The wife of van der Gulik, and a number of others who had allegedly assisted in raising the young cockatoos, were acquitted.

In 1988, van der Gulik and a colleague were fined for the illegal possession of Hyacinth Macaws *Anodorhynchus hyacinthinus;* the fines were reduced following an appeal.

General Inspection Service, The Netherlands.

USA

On 28 April 1994, at the US District Court in Austin, Texas, Jesus Natividad Maldonado, of Sandia, Texas, was charged with violations of the *Federal Smuggling Statue, the Endangered Species Act and the Lacey Act,* with respect to the illegal possession, transportation and attempted sale of a number of parrots. He was sentenced to 5 years' imprisonment, 3 years of supervised release and fined US$10,000.

In February 1992, Maldonado was apprehended at a road junction by police in Austin, who found 70 juvenile Yellow-naped Amazons *Amazona auropalliata* (App II) concealed in the rear of his vehicle. The defendant, and his cousin Teodara Maldonado Garcia, the driver, claimed the parrots had been bred in captivity at Maldonado's aviary. During the trial, Garcia testified that Maldonado had never bred any of these birds and used his aviary only as a front to mislead agents; expert witnesses at the trial further testified to the difficulty in breeding this bird. Garcia pleaded guilty to a charge of possession of smuggled parrots in July 1993. Investigations by US Fish and Wildlife Service (USFWS) and Customs agents found that Maldonado had been involved in the large-scale smuggling of parrots from Mexico into the USA.

Maldonado faces further charges, along with 11 other individuals, involving parrot smuggling.

On 8 February 1994, at Los Angeles District Court, Richard Furzer was sentenced on five felony charges relating to the conspiracy to smuggle birds into the country illegally, charges to which he had pleaded guilty in August 1993. During the period 1988 to 1990, Furzer had imported some 2400 African Grey Parrots (App II) from Zaire into Senegal, where CITES re-export permits were obtained using fraudulent information for the subsequent shipment of the birds to the USA.

He was sentenced to 18 months in prison on each count, to be served concurrently, 3 years of supervised release: restitution of US$75,000 to the USFWS (US$25,000 at the time of sentencing and US$50,000 to be paid during the period of supervised release); and, forfeiture to the USFWS of 76 African Grey Parrots and 24 Electus Parrots *Electus roratus* (App II). He was ordered to pay a US$250 special assessment fee.

* * * *

MAN PLEADS GUILTY TO CONSPIRACY TO SMUGGLE AND SELL AUSTRALIAN COCKATOOS

United States Attorney Nora M Manella announced that John Barth, 46, a resident of Las Vegas, Nevada, pleaded guilty in United States District Court today to conspiracy to import the eggs of Australian cockatoos into the United States, and to sell the birds hatched from those eggs. These birds are listed in an international treaty known as the "Convention on International Trade in Endangered Species" (CITES), as species that may become threatened with extinction unless trade in them is strictly regulated.

According to Assistant United States Attorney Daniel S Goodman and Department of Justice Trial Attorney Robert S Anderson, who jointly prosecuted the case, Barth sold some of the cockatoos through a business in New York known as "Planned Parrothood." Under the terms of a plea agreement filed last Friday, Barth admitted that the value of the birds smuggled while he was an active participant in the conspiracy was between $500,000 and $800,000.

This case is the product of an investigation by the US Fish and Wildlife Service.

Barth faces a maximum sentence of five years in prison plus a fine of $250,000 or twice the gross gain resulting from the crime. Sentencing will be before the Judge David V Kenyon on August 29, 1994, at 1:30pm.

AUSTRALIA

BIRD-EGG SMUGGLING PUTS MORE PRESSURE ON DWINDLING SPECIES

Bird and egg smuggling, worth an estimated $1.6 billion a year worldwide, could wipe out dozens of Australian native species, a Wildlife Protection Authority spokesman said yesterday.

The warning came after United States officials arrested six men who were allegedly part of a big international operation smuggling Australian fauna.

The assistant director of the Wildlife Protection Authority, Mr David Jackson, said that bird traffickers plundering nesting sites were further endangering threatened species.

"There are some wild populations of black cockatoos in Western Australia and Victoria which are extremely threatened by the removal of viable eggs .... so what we have is only the adult birds left in the population", he said.

Bird traffickers can earn more than $150,000 for taking 30 eggs out of the country, smuggled in a singlet with pockets that help to keep the eggs warm and make detection difficult.

The US Department of the Interior's Fish and Wildlife Services said that the six men arrested this week travelled to Australia each spring, took cockatoo eggs from nests and took them to the US.

If convicted of smuggling, they face up to five years' jail and a fine up to $US250,000 ($A352,000).

The Australian end of the smuggling ring has already been broken. Six people in Sydney and Melbourne were arrested in 1991. Four have been sentenced to prison terms.

* * * *

A NSW Central Coast man was granted $10,000 bail in the Central Local Court on Monday after he allegedly tried to smuggle 15 eggs worth up to $200,000 through Sydney Airport. Todd Joseph Reid, 28, of Saratoga, was bailed to reappear next Monday.

5 ENDANGERED BIRDS FROM OUR PARROT PORTFOLIO

St Vincent Parrot
Amazona guildingii

In 1993 the Trust sent the third of its Caribbean 'parrot buses' to St Vincent. It has also funded a report by Andrew Greenwood MRCVS into the breeding programme in the government aviaries on St Vincent, and the improvements and avicultural support which will follow.

Hyacinth Macaw
Anodorhynchus hyacinthinus

The World Parrot Trust has funded biological studies of this species by Charles Munn and Carlos Yamashita, and also the provision of supplementary nestboxes. Further field work is urgently needed.

Lear's Macaw
Anodorhynchus leari

This major project is supervised for WPT by leading macaw researcher Dr. Charles A. Munn III, and is centred on the planting of thousands of Licuri palms needed by these macaws. Latest reports suggest that about 100 birds still exist.

Echo Parakeet *Psittacula echo*

The World Parrot Trust is in partnership with Jersey Wildlife Preservation Trust in a longterm programme to save this parakeet, which is the world's rarest parrot with only about 20 remaining.

Red-tailed Black Cockatoo
Calyptorhynchus banksii graptogyne

The Trust has a six year commitment to this programme to help preserve an endangered sub-species of this cockatoo in Victoria and South Australia.

PLEASE GET IN TOUCH IF YOU WOULD LIKE TO HELP THE SURVIVAL OF ANY OF THESE BIRDS.

AIMS OF THE WORLD PARROT TRUST

The objective of the trust is to promote the survival of all parrot species and the welfare of individual birds.

1. By educating the general public on the threat to parrot survival, and seeking their interest, concern and support.
2. By action to protect and preserve the natural habitats of parrots.
3. By gathering and disseminating information on the status of parrot populations in the wild and in captivity.
4. By advocating effective controls on the international trade in wild-caught parrots, and its replacement by captive-bred birds.
5. By encouraging co-operation in the breeding of parrots by aviculturists and zoological institutions and better liaison between the captive breeding community and conservation bodies, with the aim of creating self-sustaining populations of endangered species.
6. By promoting high standards in the keeping of parrots as pets.
7. By encouraging research projects, i.e. the veterinary care of parrots and the preservation of genetic diversity.
8. By any other means that may be appropriate.

Members receive our quarterly newsletter *PsittaScene* with news about parrot conservation, aviculture and welfare.

Please send your completed form to:

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HELP SAVE THE PARROTS OF THE WORLD

Please join the Trust, or encourage friends to join.

SUBSCRIPTION RATES **(please tick)**

- ☐ UK and Europe (Single) £15
- ☐ UK and Europe (Family) £20
- ☐ Fellow (Life Member) £250/US$400 Corporate (Annual)
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PARROTS IN THE WILD

THE COLLARED or SOLITARY LORY
(Phigys solitarius)

Fiji is an exciting country for the parrot enthusiast, partly because of the beauty of the endemic species, and partly because they are so little known in aviculture. Only a few birds have been exported because commercial trade has never been permitted. To become familiar with some of Fiji's parrots you must go either to San Diego Zoo in California, or to Fiji itself. With the exception of the exquisite little Collared or Solitary Lory, they are not easy to see in the wild.

No picture can do this bird justice. Lories are known for their wonderful colours but it is difficult to describe the intensity and contrasts of the species, particularly the unique cape or shawl of vivid green which seems to stand away from the rest of the plumage. These lories spend much time in the tops of coconut palms, descending to search for blossoms, pollen, nectar, insects and fruit. They seem much at home in the vicinity of man and gardens, and are widespread, vocal and easy to locate. Rosemary Low.

Picture: Ron Moat

We intend to continue this series of 'Parrots in the Wild', and if any reader can offer us a high quality shot that might be suitable, please get in touch.

Designed and produced by DESIGN & PRINT SERVICES (0736) 753638