

THE RED-BROWED AMAZON PARROT EEP SCHEME

by Roger G. Sweeney

The Red-browed Amazon Parrot *Amazona rhodocorytha* is endemic to Brazil, where it is found in a narrow strip along the eastern coast. It is found in the state of Alagoas and from Bahia and eastern Minas Geras, south locally to Rio de Janeiro. Its preferred habitat is generally lowland humid forest, although it has also been recorded at altitudes of up to 1,000m (3,280ft) in undisturbed forests. Most reports refer to this species being located mainly in primary forest, with little sign that it can adapt to areas which have suffered large scale disturbance.

The primary threat to its survival comes from long-term habitat clearance. A trade in wild-caught birds existed in the past, but Brazilian national legislation has now stopped any trade in the exportation of these birds from Brazil. A local trade in nestlings for sale as pets has continued in recent years but only in very small numbers and this is also being more tightly controlled now. Probably the most clear need for *in situ* conservation of this species is to secure the protection of some of the key regions of its habitat. The most important region, Bahia, is protected now but other parts of its range are still vulnerable to disturbance. The Red-browed Amazon measures about 36cm (14in) in overall length and weighs about 450-480g, making it one of the largest *Amazona* species found in mainland South America. The coloration of this species is particularly beautiful. As with most *Amazona* species the main body plumage is green, with the most striking feature being the lovely head coloration. The forehead and crown are red, and the cheeks and throat are blue. Between the red of the forehead and blue of the lower face is an area of yellow which covers the lores. The extent of this yellow is highly variable, some birds have only a few yellow feathers, while others have all the lores and the top of the cheeks completely yellow. In our experience of a large number of these birds, the amount of yellow varies from bird to bird and is not an indication of sexual dimorphism.

The Red-browed Amazon was only ever exported in small numbers and has always been rare in aviculture. The captive population in Europe is therefore based on only a small number of founder birds, which have been in captivity for many years. Only a very small number of these have reproduced during this long period of captivity. The small number of founder birds which have bred, have done so consistently for several years, but have produced a first generation population which is very closely related. These first generation birds were sold by the main private keeper who was breeding this species, often with little information about their exact parentage. As these birds have passed from keeper to keeper, often a new

bird has been purchased in the belief that it is unrelated to its new owner's other birds, when in fact the new bird is just as closely related as those already in the new owner's possession. Indeed, most current first generation pairings are of birds from the same parents. With the founder population showing little breeding activity despite many years in captivity and with only a few first generation birds being reared, in most cases, paired to a clutch-mate, the future for this species in captivity was not very hopeful.

When the results of a survey of Amazon parrots in European zoos were analysed to see which species were most important for captive population management, the Red-browed Amazon was a clear choice. Loro Parque was the obvious institution to coordinate an EEP (European Species Survival) scheme for the Red-browed Amazon, because of the large number held in the collection owned by the Loro Parque Foundation. A proposal to form an EEP for the Red-browed Amazon was presented early in 1994 and approved late in the summer of the same year. The first step was to identify more clearly the captive population in Europe which could be included in a managed population. All known holders of this species identified in the European survey and also private keepers were sent studbook registration forms and by early 1995, the first edition of the European regional studbook was produced for the year ending 31st December 1994.

The first edition listed 71 Red-browed Amazons in collections willing to allow their birds to be included in the EEP. Several more private keepers also made initial contact but have proved slower to commit to full membership of the EEP scheme. When reviewing the population, it was clear that a great many founder birds were held in zoological collections which had failed to breed them. Also, several collections held only single birds which were important founders. Moving and pairing some of these would prove to be difficult. Some were placed with zoos by national authorities after they had been confiscated, and were therefore subject to restrictions covering their movement to other countries. Also, as so few were being bred, no collection had surplus birds, but rather wanted to add to their collection, and nobody was willing to move a bird they already held. If the EEP scheme was to succeed the most important thing was to initiate breeding by previously unproductive founder birds.

The emphasis was again on Loro Parque, which at the time held 25 of the population's birds, and also Palmitos Park, which held 12 birds. They had to stimulate breeding by their birds. The other European collection which held a substantial number, Walsrode, with 12 birds, had already bred successfully from them in 1993 and 1994.

In the early months of the 1995 breeding season at Loro Parque we had already taken the initiative and placed about 20 of our Red-browed Amazons, those which showed least interest in courtship and breeding, into a large

communal flight cage. Along the back wall of this, nine breeding cages adjoined each other: they measured 3m (9ft 9in) in length and had a nest-box at the far end. Very close attention was paid to the behaviour of the birds in this communal situation, even though we did this before the start of the breeding season, to reduce to a minimum the chances of aggression. Actual aggression was not a major problem, but we did note that two or three birds seemed to be intimidated by these circumstances. After a few days they had to be removed from the communal flight cage and were kept separately and given mates later after the main pairing exercise had been completed. Carefully, birds which showed pair-bonding behaviour were separated from the group and the result was that in 1995, Loro Parque recorded its first breeding success with the Red-browed Amazon, with five chicks being reared to independence, from two different bloodlines. At the time of writing this, in early July 1996, a further 13 chicks are being reared at Loro Parque and we feel confident of increased success over the next few years. Meanwhile, at Palmitos Park, a first time success was also recorded in 1995, when a single chick was reared by foster-parents. This was described by Rosemary Low in the *Avicultural Magazine*, Vol.102, No.2: 49-55. In June 1996, there were two chicks in the nest there.

In the two years since the Red-browed Amazon Parrot EEP scheme was initiated and the European regional studbook formed, several formerly unproductive founder birds in the population have started to breed. Over 30 Red-browed Amazon chicks have been bred successfully in 1995 and 1996 within the EEP population, 18 of these at Loro Parque. The growing number of young being produced will increase the opportunities to move and exchange birds to form unrelated pairs and, hopefully, bring all known founder birds into a potential breeding situation.

The second edition of the European regional studbook will be produced early in 1997. I strongly urge all those with Red-browed Amazons, who have not already been in contact with me, to consider cooperating with the EEP scheme. This will enable the population of first generation birds to be paired to unrelated partners and the future of the European captive population to become established. Given the uncertain prospects for this species in the wild, an established and well-managed captive population must be considered of great conservation value for the future.

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PARROT CONSERVATION, AVICULTURE AND THE LORO PARQUE FOUNDATION

by David R. Waugh

Introduction

The Loro Parque Foundation (Loro Parque Fundación (LPF)) is a non-profit making, non-governmental organisation based at Loro Parque in Tenerife, Canary Islands, Spain, from where it operates on an international basis to promote the conservation of parrots, the environment and sustainable development. A fundamental element of this is to encourage responsible aviculture to realise its tremendous potential to contribute to conservation of threatened species of parrots. As a member of the IUCN, the world conservation union, the LPF adheres to consensus guidelines for the best conservation outcomes for combined *in-situ/ex-situ* programmes. In particular, the donation by Loro Parque of the world's largest and most diverse parrot collection to the LPF has bestowed the latter with a heightened responsibility to support *in-situ* conservation action. Thus, as a major donor to field projects, the LPF now forms part of a growing movement among zoological parks and within aviculture to help underpin the conservation of species within their natural habitats, as recently summarised by Hutchins and Conway (1995).

The LPF inherited the support provided to some long-term conservation programmes from that given previously by Loro Parque, particularly in the period 1987 to 1994, the year that the LPF was created. Given the specialised interest of Loro Parque in the *Psittacidae*, the LPF has continued to focus on conservation work that involves species within this family, especially the more threatened forms. Thus the conservation and welfare needs for parrots are dealt with by the LPF in accordance with what are accepted as priority issues by the broader conservation community. Through Loro Parque, the LPF participates in cooperatively managed captive breeding programmes, for example being the coordinating entity for the *Amazona rhodocorytha* and *Ara glaucogularis* EEPs (European Species Survival schemes). Both of these involve zoological institutions and private breeders who understand the conservation advantages to the species in question, as well as the advantages to aviculture in general which can result from proper management of captive populations. Where reservations have been expressed (for example Beissinger and Snyder, 1992) about the current viability of certain conservation options for parrots, in particular sustainable harvesting and captive breeding, the LPF encourages aviculture to contribute to the efforts to substantially improve the latter.

Objectives and Operations

Community-based Conservation

The LPF approach to conservation is intended to integrate the needs of people and parrots, by encouraging local community initiatives which bring permanent benefits through wise use of the local environment. The LPF focuses on parrots because they are good indicators of the health of the environment in which they occur and, because they are very noticeable, charismatic birds, parrots can be very effective as 'flagships' (Dietz *et al* 1994) to attract more assistance to projects which integrate natural and human rural communities with environmental safeguards and economic improvements.

Education Programmes

An essential part of the process in encouraging people to care for the environment is to inform them of the benefits that will result. Using parrots as environmental emblems, the LPF directly supports grassroots community education programmes in countries where parrots occur. It also strongly assists with the continuous development of the education programmes based at Loro Parque, which use the animal collection as an educational resource.

Field Projects

Also based in the countries where parrots occur, the LPF finances comprehensive field projects which produce the information for conservation management and for local communities to use for improved land and natural resource use. Ecological studies, parrot population monitoring, reintroduction, protection measures and defining habitats for preservation and extractive uses are all essential components of these projects.

Captive Projects

In cases where parrot species have become seriously depleted in the wild state, LPF organises and participates in coordinated programmes to establish and maintain sufficient populations in captivity as a safeguard against their extinction. Thus it incorporates the avicultural dimension, while working to help parrots recover in the wild state.

Training and Research

Using the parrot collection at Loro Parque as a valuable resource, the LPF provides excellent opportunities for dedicated people from around the world to gain very effective experience in parrot care and conservation, as well as for researchers to make discoveries which will assist this process. Again, it utilises the wealth of information that the responsible avicultural community can provide.

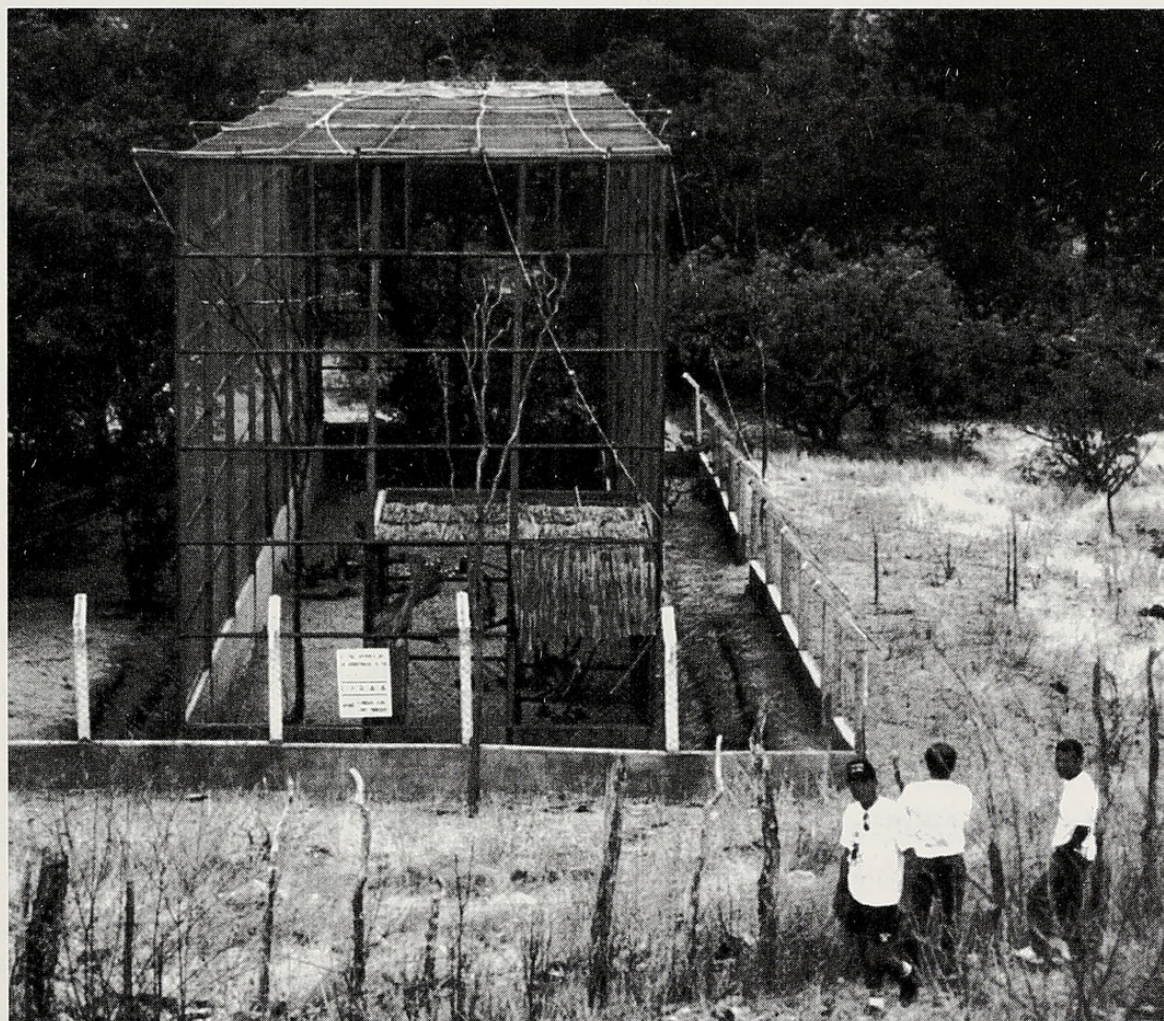
Dissemination of Information

It is essential to inform the widest possible audience about the conservation needs of parrots and how local people can be the best custodians of them and their environment. Thus, the LPF has an informed membership, produces a quarterly publication *Cyanopsitta*, publishes popular and scientific articles, and every four years organises and hosts an International Parrot Convention which constitutes an excellent global forum to discuss all issues affecting parrots and their habitats.

Project Illustrations

Spix's Macaw

The LPF is principal financial supporter of the recovery effort for the critically threatened Spix's Macaw *Cyanopsitta spixii*, endemic to the dry north-east region of Brazil where the only existing wild bird, a male, is monitored and protected, and where a female was reintroduced to the wild in 1995. This project also encompasses habitat protection and restoration, local community involvement and education, as well as the exacting process of re-establishment of birds to the wild. From a low of only 11 birds in



David Waugh

Spix's Macaw acclimatisation and release aviary in north-east Brazil.

captivity in 1988, there are now 37 (75% captive-bred) registered in the International Studbook. This encouraging increase in the total world population has occurred under the close management of the Permanent (International) Committee for the Recovery of the Spix's Macaw (CPRAA), of which the LPF is a founder member in collaboration with the Brazilian Government wildlife authority, IBAMA. In addition to the Brazilian Government, the committee includes representatives from Brazilian and international aviculture, and the zoological and scientific communities. Grassroots support of the local community in Curaca has firmly established the Spix's Macaw as the unique emblem of the region.

Halmaheran parrots, Indonesia

This island in the north Moluccas is home to no less than nine species of parrot some of which, like the White Cockatoo *Cacatua alba* and Chattering Lory *Lorius garrulus*, are globally threatened. The LPF has funded a comprehensive species and habitat survey, implemented by Birdlife International and the Indonesian Directorate General of Forest Conservation and Nature Protection. By careful attention to the scarcity of some species in forest on ultra-basic substrate, and the decline in bird densities above 700m (about 2,300ft) altitude, preliminary results form a strong case for the gazetting of 350,000ha (about 865,000 acres) of prime habitat as a new national park, and recent representations to the Indonesian Government could, with the support of the World Bank, result in the establishment of this protected area.

PDD Research

Proventricular Dilatation Disease (PDD) poses a serious threat to aviculture and the management of threatened parrot species in the wild, particularly those with very small populations. The reintroduction of birds from captivity to the wild is a problem issue until we have more knowledge of cryptic diseases such as PDD. Currently there is no known way of combating this disease which is spreading and becoming a global problem. The disease has now been recognised as infectious, probably with a viral causative agent, and no birds with confirmed PDD have survived. In the order Psittaciformes alone, PDD has been reported in more than 50 species, including cockatoos, lovebirds, conures, amazons, macaws and parrakeets. The LPF is thus providing major collaborative funding, with the International Avian Research Fund, Inc., to the Psittacine Disease Research Group (PDRG) at the University of Georgia, USA. The PDRG has an excellent reputation for research into psittacine diseases. Due to its earlier work, Psittacine Beak and Feather Disease (PBFD) can be avoided now by

use of a diagnostic test and polyomavirus, a major cause of death in young parrots, can be dealt with using a vaccine.



Alan Hesse

Blue-throated Macaw painted by a local school child in Beni, Bolivia.

Blue-throated Macaw

The Bolivian NGO, Armonia, is funded by the LPF to census the population of the highly threatened *Ara glaucogularis*, and develop conservation management measures involving local people. The latest reports from Armonia indicate an alarming situation with may be fewer than 100 individuals remaining in the wild, while habitat destruction continues and the illegal removal of young from the nests is a persistent threat. With continuing support from the LPF, Armonia will increase its positive working relations with local landowners to curb habitat loss and improve protective measures. At the same time it will continue the census work and to develop its educational programme for the local people of Beni, the native region of this enigmatic species. With such a high profile within aviculture, this is a species which responsible aviculturists can really help in no small measure.

Dominican parrots

The threatened Imperial Parrot *Amazona imperialis* and the Red-necked Parrot *A. arausiaca* are principal beneficiaries of LPF support for ecological studies which form the basis of a sustainable forest and agriculture management scheme, land purchase for forest protection, and development of national park infrastructure including boundary definition, trails, and tourist and educational facilities. This has been achieved through support to the Dominica Multiple Land Use Project run by Dr Peter Evans of Oxford University, and the Forestry and Wildlife Division of the Government of Dominica, via Birdlife International.



Peter Evans

Imperial Parrot, Dominica.

Red-tailed Parrot

Amazona brasiliensis is a species endemic to the coast of south-east Brazil, also suffering from heavy nest-poaching and even the capture of adult birds. The LPF is continuing to finance work to combat this problem in Paraná State, through Pedro Scherer Neto of the Curitiba Natural History Museum. This work includes regular monitoring of the population - about 3,500 birds in total - and increasing the opportunities to hinder the illegal removal of the birds and nest-tree destruction.

Rusty-faced Parrot

This parrot, *Hapalopsittaca amazonina*, is little-known but sufficient evidence exists to include it in the IUCN category of endangered. For this reason, the LPF, jointly with Fonds Für Bedrohte Papageien, is funding important surveys and fact-finding investigations in the Venezuelan Andes by Provita, an NGO of the same country. This is a considerable task, given that it is an extremely sparsely distributed, cloud-forest species, and also because destruction of its forest habitat continues, even in the El Tamá National Park in Táchira State.

Yellow-eared Conure

Another co-sponsor venture with Fonds Für Bedrohte Papageien involves the protection of the critically threatened *Ognorhynchus icterotis*. This conure of stunning appearance is known now only from two sites within its previous broader geographical range, one in Ecuador and the other in Colombia. Dr Niels Krabbe (Museum of Zoology, University of Copenhagen, but based in Ecuador) will lead the team which will try to bring this species back from the brink of extinction, firstly by focusing on the approximately 20 individuals at the Ecuador site. This species has a strong biological affiliation with the Wax Palm *Ceroxylon andinum*, a tree species which has declined dramatically due to habitat destruction and is now further threatened with a disease thought to occur as a result of the combined action of a beetle and a fungus species. The Yellow-eared Conure project will involve the monitoring of the known birds, educational work in local schools, habitat protection including the re-establishment of Wax Palms, and research on behaviour, nest sites, feeding and food palms, and the distribution outside of the breeding season.

Moluccan Cockatoo

Cacatua moluccensis has been the subject of much unregulated trade, to the point where considerable concern exists about its status in the wild. The LPF is involved in two separate initiatives to investigate the current situation regarding this species in its native Seram, Indonesia. The first is to provide financial support to a University of Cambridge team which this year is investigating the biodiversity in, and potential threats to a previously unsurveyed area called Wae Bula. *C. moluccensis* will be a high-profile species in their work. The second initiative, a joint venture between the LPF and Kakadu United Magazine, will be centred on the Manusela National Park and surrounding unprotected areas. The LPF will oversee this project, which is intended to document the current impact of unregulated or poorly regulated trade on the local wild population of this species, and produce workable conservation management recommendations acceptable to the local people.

Tumbesian parrots, Ecuador

In the dry south-west of Ecuador, within the Tumbesian area of endemism, occur several species of parrots which have restricted ranges, such as the Masked Conure *Aratinga erythrogenys*, and/or are highly threatened, such as the Great Green Macaw *Ara ambigua guayaquilensis*. The LPF is providing funding to another University of Cambridge team which is undertaking census work on these parrots, as well as searching for and monitoring the nest sites of *A. ambigua*, particularly in the Cerro Blanco Reserve, at the invitation of the local NGO Fundación Pro-Bosque.

Discussion and Conclusion

The range of projects illustrated shows that the LPF exists first and foremost to help prevent the extinction of highly threatened parrots. It works with highly motivated and well-organised people where the problems need to be tackled, and links these with aviculturists who want to increase their contribution to the conservation of the species that provide them with so much enjoyment. The total of US\$208,000 (approx. £140,000) support to projects during 1996 can make a real difference, but these funds are always hard-won and there is a constant search for ways to diversify our sources of income.

Loro Parque is a constant supporter of the LPF, in particular with its donation of the entire parrot collection of some 2,500 birds. As a way to supply the demand for parrots from a captive-bred source rather than from the wild, the breeding surplus from the parrot collection provides the LPF with one means to secure income for direct *in-situ* conservation projects. The LPF and Loro Parque carefully monitor sales of surplus birds to ensure that direct use of the funds for *in-situ* conservation remains compatible with cooperative breeding programme agreements and the welfare of all birds. Thus, the LPF is moving ahead to make an effective contribution to the conservation of parrots in the wild state, and to try to ensure that the role of responsible aviculture in this regard can be enhanced.

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OPERATION CHOUGH

by Richard M. Meyer

The Chough *Pyrrhocorax pyrrhocorax* is a star! This is not just my opinion but that of many other ornithologists, biologists, conservationists and aviculturists, including the late Susan Cowdy (doyen of Bardsey Island birds) who has recently been so tragically taken from us. I counted Susan a friend - even though I had met her only twice, at Chough conferences. She was one of the first and few conservationists to enthusiastically support our efforts to re-establish the Chough in Cornwall, in south-west England, partly through a captive breeding programme.

What follows is in part a summary of my PhD thesis - *The Feeding Ecology of the Red-billed Chough Pyrrhocorax pyrrhocorax in West Wales and the Feasibility of Re-establishment in Cornwall* - written at Glasgow University. I hope it might be useful to all those who are not prepared, reasonably enough, to tackle the original 100,000 words!

The original massive and rapid decline of the Chough in Britain was anthropogenic (begun by man). An east to west retraction had begun by the 19th century; there is a good correlation between longitude and dates of local extinctions. Persecution - direct and indirect - and a modernising post-Industrial Revolution agriculture, followed by rural depression (resulting in ever less coastal grazing), profoundly damaged the long-term survival of this always scarce and rather sedentary epigaeal invertebrate feeder.

Why did it disappear from England and not from Wales, Scotland, Ireland and Brittany on the French Atlantic coast? For a start, England has no agrarian island refuges combining sympathetic farming practises within a natural sanctuary. Islands provide the greatest length of multi-aspected coastline relative to landmass. The next best is a heavily indented remote coastline with abundant exposure aspects and headlands - such as is found in Ireland.

I approached the ecological feasibility of re-establishing the Chough in Cornwall from a dual perspective: 'What were the habitat factors which caused Choughs to disappear from Cornwall and not Wales?' and 'Do any significant differences still exist?'. In other words, could Cornwall support a viable population today if Choughs were 'miraculously' to reappear? One might ask the same question of Mauritius and the Dodo.

I spent a year assessing background habitats in west Wales and Cornwall (in all 200 1km squares of coastal and inland habitat including Chough or



Sweeney, Roger G. 1996. "The Red-browed Amazon Parrot Eep Scheme." *The Avicultural magazine* 102(3), 106–117.

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