PROMOTING HIGH STANDARDS
IN PARROT CONSERVATION
AVICULTURE AND WELFARE

Psitta scene

The World Parrot Trust

Vol. 8 No. 3 August 1996

World Parrot Trust Spans the Globe

A Review by Rosemary Low and Michael Reynolds

It occurred to us recently that *The World Parrot Trust*, now in its eighth year, was involved in a considerable number of activities in many countries. Would it not be interesting for our members, and other readers of this newsletter, if we were to briefly report the current range of our projects and initiatives? We thought so, so here goes:-

UNITED KINGDOM

As most members will know, *The World Parrot Trust* was launched in 1989 at Paradise Park in Cornwall, UK. Paradise Park is a family owned enterprise, started by Mike and Audrey Reynolds in 1973. Tucked away in the far South West of Britain, the park has to sustain itself on the proceeds of a very short holiday season. Despite this disadvantage, the park provides a free home base for *The World Parrot Trust,* plus many hours of donated staff time, facilities, equipment, and fund-raising effort. Together with their consultant vet Andrew Greenwood, and curator David Woolcock, the Reynolds family concluded that the much adored but much exploited parrots of the world needed some TRUE FRIENDS. And so *The World Parrot Trust* was born.

So what now goes on in the Trust's offices at Hayle in Cornwall? First, a mass of communications are handled by Judith Venning, the Trust's administrator. Aided by Vicki Woolcock, she deals with applications for funding (far more than the Trust can possibly provide), our own fundraising initiatives, membership renewals, sales of WPT goods, and a range of enquiries from the media and general public. In addition, the UK office is the focal point for communications between the Trust's eleven international branches. We have reached a stage where some national branches are selecting and funding their own parrot conservation projects (see later in this review), but assistance and final approval is required from our distinguished team of project reviewers and supervisors (Joe Forshaw, Charlie Munn, Andrew Greenwood).

The World Parrot Trust must be one of the world's most economically run charities. Mike Reynolds acts as honorary (i.e. unpaid) director and now spends 75% of his time working for the Trust. David Woolcock refuses to accept any payment for the considerable time he gives, Andrew Greenwood does not charge for his invaluable advice. Judith and Vicki only work part time, and also do much that is unpaid.

British Airways Assisting Conservation has been notable in its support of our work.

Our greatest frustration is that the Trust's annual income has never yet exceeded £100,000, and we need ten times that amount to give the parrots the help they desperately need. Our membership has grown to 2,500, but that is completely inadequate, bearing in mind our calculation that there are at least fifty million pet parrot owners in the world, probably a million parrot aviculturists, and many more people of all kinds who are interested in parrots. We MUST increase our support from all these groups, so we have included in this issue a copy of our recently updated 'Parrot Portfolio', which we would ask you to give to somebody who really should be joining us in our mission.

One of our immediate aims is to DOUBLE OUR MEMBERSHIP in a short period of time. By doing so we will not only double our income, but also double our ability to influence organisations and individuals who have an effect on the conservation and welfare of the parrots. Do not doubt that your Trust is influential; since our formation we have significantly changed attitudes around the parrot world. We have asked aviculture to 'put something back' to help the parrots in the wild, and a response to this has clearly been seen. We have promoted the concept of 'responsible aviculture' and this has now been taken up by other organisations. Bird food manufacturers are realising the importance of devoting a (very small) part of their receipts to conservation projects and veterinary challenges. Previously ruthless smugglers have transformed themselves into snow white conservationists! All of this is to the benefit of the birds themselves, and we believe *The World Parrot Trust* has shown the way. Around the globe our associates are involved in projects of many kinds, all contributing to our knowledge

> "**psittacine**
> (sit'å sîn) Belonging or allied to the parrots; parrot-like"

The first WPT bus, the Jacquot Express on St. Lucia Photo D. Woolcock

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IUCN

The World Conservation Union

Above: This WPT notice board and collection box is displayed in prominent locations.

about these wonderful birds, and our ability to protect them against the modern, exploitative world.

So let us head East into the Old World, and see what involvements The World Parrot Trust has there.

SOUTH AFRICA

Here we are working with Professor Mike Perrin of Natal University, who is developing *World Parrot Trust Africa*. Later in this issue we include Mike's newsletter sent to members of this branch, which will also be of interest to other readers.

CENTRAL AFRICAN REPUBLIC

As also reported in this issue, WPT funded a field study of Africa Grey parrots carried out by Diana May, who has worked for several years with Irene Pepperberg and 'Alex'. Further work here is planned.

ETHIOPIA

Later this year we plan a visit to Ethiopia to study the two endemic parrots of this country, Yellow-faced Parrot *Poicephalus flavifrons*, and Black-winged Lovebird *Agapornis taranta*. We see this as a possible opportunity for the next educational 'Parrot Bus'.

MAURITIUS

Our members will be well aware that we continue to support the work on the Echo Parakeet *Psittacula echo*. Carl Jones and his team are making excellent progress, with the total number of birds having been increased from about 15 to over 50 during the past seven years. Our trustee and consultant vet Andrew Greenwood will be making his third advisory visit later in 1996.

THE PHILIPPINES

Here we have provided funding for the work initiated by Marc Boussekey to help preserve the Red-vented Cockatoo *Cacatua haematuropygia* in its stronghold on Palawan Island. We've just received a report from Marc, which will appear in the November 1996 *PsittaScene*.

AUSTRALIA

Having previously funded efforts to protect an endangered sub-species of the Red-tailed Black Cockatoo *Calyptorhynchus banksii graptogyne* in Victoria and South Australia, we are now all set to join in a combined effort to carry out a three year study of the Palm Cockatoo *Probosciger aterrimus* in Queensland and New Guinea . This Autumn, Mike Reynolds will be visiting the Iron Range National Park with Joe Forshaw, Don Bruning of NYZS and staff of the Queensland Department of Environment and Heritage.

NEW ZEALAND

Andrew Greenwood has been invited by the NZ Department of Conservation to visit New Zealand and advise on the Kakapo Recovery Programme. This visit results partly from the important contribution Andrew has been seen to make to the Echo Parakeet programme, and partly from an extended visit made to the UK last Summer by Daryl Eason, a member of the NZ Dept. Of Conservation staff. Daryl was provided with training on hand-rearing parrots at Paradise Park, Cornwall (home of WPT), and also with leading private aviculturists.

TONGA

We have an invitation to visit here and study the possibility of providing some educational assistance, perhaps in the form of a 'Parrot Bus'.

Moving swiftly across the Pacific to the NEW WORLD.

CANADA

Our second support group was formed here in 1990, and the Canadian World Parrot Trust now funds its own group of projects. Chairman Mike Pearson and his very effective committee have worked with other Canadian organisations to identify, approve, and fund valuable field work in Bolivia and Cuba.

BOLIVIA

Catherine Soos and Laurel Neufeld have just begun in August 1996 a six week programme of veterinary investigation of wild parrots. This research will provide information important to future conservation activity, both in the wild and in captivity.

CUBA

Distinguished US biologists Jim Wiley and Rosemarie Gnam are conducting a three year study of the Cuban Parakeet *Aratinga euops*. Canadian WPT will provide about one third of the three year cost.

USA

Here we have our branch with the largest membership, after the UK. Cynthia Webb is our part time administrator, and she can be reached on phone/fax (001) 901 8733616 & Email cwebb@wsp1.wspice.com. The trustees of WPT-USA are Charles Munn, Richard Porter, Andrew Greenwood and Mike Reynolds. Among our main concerns here is to win the support of the many thousands of devoted parrot keepers of all kinds, who lavish such generous care on their precious birds. In general, these are undoubtedly the world's most fortunate captive birds. What we ask, however, is that a fraction of the available wealth be reserved and channelled to help the survival of parrot species in the wild, from which all the immense rewards of developed aviculture have sprung. *The World Parrot Trust* remains the most logical and most cost-effective vehicle to make good use of funds for parrot conservation in the wild, and parrot welfare in captivity.

At a meeting of WPT-USA trustees held at the IAS conference in Orlando in January this year, substantial funds were allocated to projects for Lear's and Hyacinth Macaws in Brazil, and a new commitment made to provide extra field assistance for the Echo Parakeet team in Mauritius. We continue to look for support from bird clubs, publications, businesses, and individuals. We take this opportunity to thank all those USA members who have helped us to be represented at events across the country. Their work is greatly valued and appreciated.

MEXICO

We have previously reported on the position of the endangered Maroon-fronted Parrot *Rhynchopsitta terrisi*, and more recently we have sought funding through our

PARROTHABITAT FUND to help the excellent new initiative described by Noel Snyder and Ernesto Enkerlin in our February 1996 *PsittaScene.*

PERU

Members will be well aware of the long term achievements of Charlie Munn in protecting vast areas of the rainforests of SE Peru, and the importance of these habitats for many species of parrot. Quite a few members have visited the Tambopata Research Center, and we recently arranged for an extended period of field study by our Scandinavian WPT team leaders Line Wadum and Michael Iversen.

ECUADOR

The Trust has provided modest funding for the Cerro Blanco forest reserve near Guayaquil, which holds a very small population of Buffon's Macaw *Ara ambigua guayaquilensis*. We have also funded an ongoing series of visits to important parrot areas in and around the Podocarpus National Park, by Jeremy Flanagan, a young British biologist who is teaching in Ecuador. He has identifed a number of new locations for the Red-faced Parrot *Hapalopsittaca pyrrhops* and the Golden-plumed Parrot *Leptosittaca branickii.*

PARAGUAY

As reported in our August 1995 PsittaScene, the *World Parrot Trust* - with financial help from the Foreign and Commonwealth Office, and much logistical help from British Airways - provided an 'Eco-bus' for Paraguay. We were also able to send Andrew Greenwood to advise on the development of Asuncion Zoo, and built a large aviary there for a group of Hyacinth Macaws.

COSTA RICA

This is a new country for the Trust. We have recently renewed our excellent working relationship with RARE Center for Tropical Conservation (with whom we jointly created the three Caribbean Parrot Buses) by contributing funds towards their program for Buffon's Macaw in Costa Rica. More details of this important three year project in the next issue of *Psittascene.*

BRAZIL

We have funded activities in Brazil since the early days of the Trust, starting with our contribution to the search carried out in 1990 by Carlos Yamashita of IBAMA and Tony Juniper of BirdLife International, which established that only one Spix's Macaw *Cyanopsitta spixii* remained at liberty. The rest had been illegally removed for the benefit of those who now choose to describe themselves as being committed to 'responsible aviculture'.

Working with Charlie Munn and his Brazilian associates, notably Dr. Pedro Lima of CETREL (an award-winning environmental protection company), Yuri de Barros, Danilo Lima and others, we have funded continuous efforts to protect and preserve Lear's Macaw *Anodorhynchus leari* in its rugged NE Brazil location. We are growing thousands of the palm trees on which the best known population relies, have taken difficult initiatives in converting macaw poachers into macaw guards, and have located a second population. See the report in this issue about two Lear's Macaws being confiscated in Paris; this alarming event makes it clear that the protection of these birds - which probably number no more than 200 in all populations - is a paramount requirement, as outlined by Dr. Munn in our November 1995 *Psittascene.*

Also in Brazil, we have funded the work of two well-known Brazilian biologists to save the Red-tailed Amazon *Amazona brasiliensis.*See the report by Paulo Martuscelli in the Aug. 1995 *PsittaScene.*

PUERTO RICO

We have previously reported on the longterm program to save the Puerto Rican Parrot *Amazona vittata,* and in this issue we bring new information.

ST. LUCIA, W.I.

Our first Parrot Bus was sent here in 1991, and has been seen by a majority of the island's children. Currently 'resting', it is hoped that it can be revised and updated, and put back on the road. It must be remembered that when Paul Butler of RARE first conceived of this bus, it was intended to have a maximum life of three years.

DOMINICA, W.I.

Our second Parrot Bus is here, and we await a report on its current activity.

ST. VINCENT, W.I.

Because Paradise Park is a founder member of the St. Vincent Parrot Consortium, and has successfully bred this superb parrot, we have a particular interest here. In recent years we have sent our third Parrot Bus, and provided the services of Andrew Greenwood to review the Government's breeding program for the St. Vincent Parrot *Amazona guildingii.* Last month we sent two large display boards to be used to educate visitors to the Forest Trail, and the Botanic Gardens. We have sent funds to help build a new display aviary in the Botanic Gardens.

Briefly returning to Europe:-

NETHERLANDS

In May this year our WPT Benelux branch once again organised the WPT Parrot Symposium, this time at the Beekse Bergen Safari Park. See 'International News'.

DENMARK

With the help of the Foreign and Commonwealth Office, which seems to see The World Parrot Trust as a useful organisation contributing towards Britain's image as an environmentally concerned country, in June we held a special event at the British Embassy, Copenhagen, to launch WPT SCANDINAVIA.

FRANCE

On October 5th, Rosemary Low and Mike Reynolds wil be speaking at the '2me Rencontre Ornithologique Européennes' at the National Vet School, Alport, Paris. Details of this event from: Dr. Didier Leportois, 10 Ave. Aristide Briand, 03200, Vichy, France. Phone: 33.70.59.83.53. Fax:33.70.32.86.26.

And so in this review of World Parrot Trust activities we have touched down in twenty six countries. In some, our involvements are substantial, in others, very tentative or in an early stage of development.

Please bear in mind that the Trust still manages to run itself with only three part time administrative staff, two in the UK, and one in the US. Everyone else works on a volunteer basis. We welcome all offers of assistance from every source, and to help this process along, please feel free to call the Trust on its new Personal phone number, which in the UK is 07000 PARROT (or 727768). From outside the UK the number is +44 7000 PARROT.

A FINAL PLEA: PLEASE TRY TO RECRUIT A NEW MEMBER FOR THE TRUST!

Above: Cuban Conure: Photo taken by kind permission of R.Low,R. & V. Moat from "Parrots in Aviculture"

Above: Black-winged Lovebird: Photo taken by kind permission of R.Low, R. & V. Moat from "Parrots in Aviculture"

Hyacinth Macaw: Photo: Bonnie Jay

Efforts in Conservation: The Puerto Rican Parrot - Past, Present & Future

by Maria Herzog, DVM

Called Iguaca by the Taino Indians that once inhabited Puerto Rico, the Puerto Rican parrot *Amazona vittata* once flew in great flocks over the entire island of Puerto Rico as well as the neighbouring small islands of Mona, Culebra and Vieques. At this time, the parrot's population was estimated to have exceeded 100,000 by some researchers. Others believe the population may have been over 1 million.

The arrival of Columbus and the subsequent settlement of the island by Europeans marked the beginning of the decline in numbers of Iguaca. In 1650, the human population of the island was estimated at 880. It continued to rise steadily and by 1850 the human population was estimated at 1,000,000; millions of acres were cultivated for agriculture and raising cattle, stealing valuable parrot foraging, nesting and breeding sites.

SETTLERS ARRIVE

The parrots continued to survive despite the changes. It is estimated that as late as 1878 the parrots were still abundant on the island. As settlers continued to arrive, original forests continued to be replaced by cultivated land. As in virtually every other case of animal extinction, man's expansion, and consequent loss of natural feeding and nesting habitat represents the biggest reason for the decline in the population. Also, capture as pets for the human population, introduction of new predators (e.g. Red Tailed Hawk) and natural disasters (e.g. hurricanes and tropical storms) all contributed to the steady decline in numbers of the parrot. By 1799 the subspecies *Amazona vittata gracilipes* which inhabited neighbouring Culebra island had become extinct. The species on Vieques and Mona had long since disappeared before they were adequately studied. All that remains of these birds is skeletons found on the islands.

By 1912, human agricultural consumption of land left less than 1% of original forest. Although the parrot persisted in small pockets of forest left throughout the island, they slowly but steadily disappeared. In 1899, hurricane San Ciriaco hit the western part of the islands and helped to eradicate the remaining small populations still present in the western forests. The few parrots that remained were then eliminated by hurricane San Felipe in 1928. This left only one single population of parrots in a forest of 2270 ha in the north-east area of the island - the Luquillo mountains. This forest was sparsely populated, dense, and was the wettest part of the island. Still, flocks of 50-100 birds were seen in this part of the island as late as the 1900's.

US GOVERNMENT TAKES CONTROL

When the United States was granted Puerto Rico in the early 1900's, the government recommended the creation of a Federal Forest Reserve in the Luquillo mountains and the Caribbean National Forest was thus created in 1903. The U.S. government eventually purchased the land around the forest until total acreage reached approximately 11,330 ha. The parrot continued to live in the Luquillo forest and surrounding land. Even at this time, further decimation of the Luquillo parrot population continued as roads and footpaths were built into the mountains, which exposed many nesting areas directly to human contact. Thousands of hatchlings were taken for the pet trade. Also the forest was used as a source of timber for the island and logging felled many of the important nesting sites of the remaining birds. The final insult to the Puerto Rican parrot population in the Luquillo forest was hurricane San Ciprian (1932).

The first scientific census was done in the 1950's by Rodriquez Vidal at which time the number of the remaining birds was estimated at 200. Another census was done in 1972 at which time the total parrot population was estimated to be 14-18 in the wild, and 4 known in captivity. At this time, intensive wildlife study and management of the Puerto Rican parrot was begun. The plight of the Carolina parakeet, was, hopefully, not to be repeated. (The Carolina parakeet was an endemic psittacine in the United States which became extinct in the 1930's. Although ornithologists realised the species was in trouble, efforts at saving the bird were too little and too late.)

With the awakening conservationalism present in the United States in the early sixties, it was realised that wildlife needed to be protected. In 1966, the Federal Endangered Species Act was passed and in 1967 the Puerto Rican Parrot was placed on the endangered species list. In 1968 a conservation programme was initiated as a co-operative effort between the U.S. Fish and Wildlife service, the U.S. Forest Service and Department of Natural Resources of the Commonwealth of Puerto Rico. The programme, as stated above, was begun as a wildlife field management programme. Wildlife biologists were sent to the island to study the parrot and its habitat.

NATURAL HAZARDS

Due to the constant threat of complete eradication of the species due to forces beyond man's control (e.g.. hurricane, disease, predation), a captive breeding programme was instituted a few years later. A location within the Luquillo forest which had a free-standing, hurricane proof structure erected by the Civilian Conservation Corps in the 1940's was chosen as the site to set up a captive breeding facility. Renovations on the structure began in 1973 and the buildings were converted to contain indoor flight cages and living quarters for biologists. Over the next six years, wild stock (usually chicks or eggs that were in trouble and would have perished in the wild anyway) was collected to begin the captive flock. All attempts were made to allow all wild breeding pairs to fledge at least one chick. Eventually, genetic representation from all wild nests was obtained. The fifteen captive parrots in the aviary in 1979 represented seven to eight different family lines.

A closed breeding flock of Hispaniolan amazon *Amazona ventralis* parrots were the first residents of the Luquillo aviary. Early in the project it was realised that due to the paucity of available Puerto Rican Parrots for fostering and rearing eggs and chicks, a substitute foster species was needed. Hispaniolan parrots were chosen due to their availability here in

Puerto Rican parrots nest in tree hollow

Photo José Colón

Puerto Rico (they originate on neighbouring Hispaniola island and flocks of the exotic species live on the island of Puerto Rico), their similar size and their similar reproductive biology. For example, the length of egg incubation, chick size and rate of growth, fledging time and adult size are identical to the parameters of the Puerto Rican parrot.

CAPTIVE BREEDING

The captive breeding programme provides a multitude of functions. Primarily, it provides support to the wild nest management programme. Chicks or eggs that are abandoned can be brought to the captive breeding facility to be incubated, and raised by the staff or by foster parents. Chicks that are sick, undersized to siblings or parasitised can be brought to the aviary and nursed back to health. If chicks in a wild nest run into trouble and need to be brought to the aviary, the nest can be kept "active" by replacing the Puerto Rican chick with a Hispaniolan chick of the same age. The wild parents readily accept the foster as their own and continue feeding and caring for the chick until the original chick or chicks can be returned.

A full time veterinarian is on staff who also serves as the aviary operations co-ordinator. The veterinarian makes routine visits to the natural nest sites to assess the health status of wild chicks. During these visits, all wild chicks are banded and blood for chromosome sexing is taken. The veterinarian and field biologists work together to determine optimal management of wild nests.

Banding of wild birds was begun in 1986 to help biologists identify individual birds. Unfortunately, the only identification that can be made is if the bird is physically in hand, which only happens if it has perished. The project biologists are currently experimenting with the use of coloured bands.

SUPPLEMENTING WILD POPULATION

Another support function of the captive breeding programme is to supplement the wild population. When a wild nest has a population of less than three chicks (wild parents can easily accommodate up to three hatchlings), captive bred Puerto Rican parrot chicks can be added to the nests. This method of captive parrot "release" has been very successful in the history of this project as almost all of these captive chicks have fledged into the wild. This method also provides genetic exchange with the wild population as well as helping to augment the wild population.

Another purpose of the captive breeding programme is to protect the species from complete eradication. If a catastrophe were to occur (e.g. a hurricane or any other catastrophe which would destroy the rainforest), our captive birds would survive. This was demonstrated in 1989 when hurricane Hugo killed over 50% of the wild population and 0% of the captive population. The captive flock had been moved into the reinforced concrete structure that is now the main aviary operations building. A special "hurricane room" was constructed especially for this purpose.

Finally, another objective of the captive population programme is to document birds and pedigree. Due to the genetic "bottleneck" that occurred in 1973, the captive population must not only be aviculturally but also genetically managed to ensure breeding between the most genetically diversified birds. This involves a meticulous record-keeping system with capability of calculating demographics, pedigree charts, kinship values, etc. Although selected breeding of birds is theoretically the desired technique, it must be coupled with the fact that the birds must select their mate. The two most genetically distant parrots will not breed if they do not like or "choose" each other.

RECORD KEEPING

The record-keeping system used to maintain aviary records is the ISIS system of ARKS, SPARKS and MedARKS. These three systems are currently used by many zoos world-wide. ARKS (Animal Record Keeping System) is the general records-keeping file to record transactions (incoming or outgoing animals, identifications, locations, origins, etc.). Med ARKS is the system by which medical files or "records" can be kept on each individual. SPARKS is the Single Population Analysis and Records Keeping System. This system allows one to assemble, edit, analyse data and produce reports on the status of a captive population. One "studbook" is created for a species and all records (genetic, reproductive, etc.) for all individuals of a species are maintained by a "Studbook Keeper". More than one location may exist for a particular species so it becomes important to keep all information collectively.

LUQUILLO FOREST FACILITY

Today, the original facility is still in its original location in the Luquillo rainforest. The current population consists of 59 Hispaniolan amazon parrots *Amazona ventralis* and 46 Puerto Rican amazon parrots *Amazona vittata* including this year's chicks.

Recently, the Hispaniolans are not only used as foster parents, but also as training birds. Their eggs can train newly formed or young Puerto Rican parrot pairs. Since some parrots take a few years to learn proper incubation and chick rearing skills, it makes sense to allow the experienced, proven Hispaniolan parrots to incubate and raise the valuable Puerto Rican eggs and chicks and, at the same time, test the ability of the new pair themselves to incubate Hispaniolan eggs and raise these chicks. Another function of the Hispaniolans is to provide chicks for training the staff in chick handling and feeding. Some of these babies become quite tame.

Despite the success of the breeding programme in Luquillo, it was realised that all the parrots were still in one geographical area. It was felt that it would be wiser to move some of the birds to a different location on the island. In 1990, construction of a second aviary located on the other side of the island in Rio Abajo was completed. Run by the Department of Natural Resources of the Commonwealth of Puerto Rico, the first Hispaniolan parrots arrived in 1991. The first 12 Puerto Rican parrots were transferred from the Luquillo aviary to the new Jose Luis Vivaldi aviary in Rio Abajo in 1993. In early 1995, 14 more Puerto Rican parrots were transferred. That breeding programme has been very successful producing 10 PR parrot chicks this breeding season.

Breeding PR parrots is a difficult business. Due to the poor genetic diversity inherent in a population whose numbers were once 14, as stated above, this must be taken into account when trying to establish breeding pairs. The first step is to place genetically compatible birds, usually one or two males with a few females, into a "pair bonding" cage. This is a flight cage equipped with a camera and a blind (a camouflaged sitting area outside of the cage with a one way mirror to view into the cage). Observations are made a few times daily to see if a "pair bond" forms. Signs of pair bonding include mutual preening, sitting and eating together, mutual chasing of predators (e.g. the staff bringing food into the cage), bowing, feeding each other, and tail and wing displays. It is hoped that the pair to form is a heterosexual pair as homosexual pairs may also form.

Once a pair is actually formed, they are moved to a breeding cage. Our breeding cages measure approximately 3 1/2 m long x 1 1/2 m wide x 2 m high. The perches are natural palo colorado branches collected from the forest. The Palo Colorado is the tree most used by the wild parrots for nesting cavities. The wood of the Palo Colorado has a natural insecticide and therefore we also use this wood to make our nesting material. Extra branches and wild cupey leaves are provided for the parrots to chew on.

Puerto Rican Parrot *Amazona vittata*

Artificial nest cavities made out of PVC with a natural palm log opening are mounted to the breeding cages. An access door is located at the bottom of the nest for inspections and top of the nest has an access closure to keep the parents out of the nest during the inspections.

NEST INSPECTIONS

Nest inspections are done three times weekly during the breeding season. It is done during the morning feeding time as the birds exit with expectation of food. This causes minimum disturbance to the birds as morning cacophony is routine.

As often as is possible the parrots are allowed to incubate the eggs and raise chicks. New, expensive, high-tech incubators and hatchers still do not accomplish the high hatch ratio that the parrots can. Further, with all our handfeeding formulas, drugs, and intensive feeding schedules, we still cannot attain the rate of weight gain that the natural parents attain. In other words, the parrots are much better parents than we will ever be.

The chicks are closed banded when they weigh about 100g (usually 8-10 days old). When they reach 200g (approximately 1 week later), blood is taken for chromosome sexing.

During these first few weeks of life the birds are monitored closely via video cameras located in each breeding cage to make sure they are feeding the chicks. The chicks are weighed during nest inspections and records of weight gain are kept. A small, underdeveloped chick can be fostered to another captive nest with younger chicks. Also during this time, the noise (construction, etc.) level at the aviary is kept to a minimum.

FLEDGING

The second critical time for the chick is fledging time. As fledging approaches, the chick will sit on the nest lip and flap his/her wings. At this time, again, the birds are monitored closely as occasionally a parent will attack a fledging chick. Once a chick has successfully fledged, it is left with the parent for 6 months to learn proper "parrot" behaviour (e.g. preening, courting/couple behaviour, feeding, etc.).

The future of the project is unsure, as it is funded by the US government which has expressed interest in budget cutting in every last bastion of environment down to the wildlife programmes. Nevertheless, we expect to, in the future, develop techniques for raising captive bred birds for eventual release to repopulate the island. We desire to, one day, see flocks of 200 iguacas flying around the entire island of Puerto Rico. We hope that we have inspired others to realise the fragile existence of many psittacine species in the wild and that they need to be protected now, not once it is too late. Finally, we hope that other captive breeding programmes will be instituted to help other wild psittacine as well as other avian populations world-wide.

VISIT TO RIO ABAJO AVIARY

By Michael Reynolds

In February this year my wife and I stopped off in Puerto Rico en route to Miami. We took the opportunity to visit the José Luis Vivaldi aviary at Rio Abajo, where we received a warm welcome from José Rodriguez Luelez and Anne Smith, who together manage this successful facility.

You will have read in the foregoing report by Maria Herzog that 12 Puerto Rican parrots were transferred from the Luquillo aviary to Rio Abajo in 1993, followed by 14 in 1995. It seems that many of these birds were not exactly prime breeding birds, but José and Ann managed to form some effective pairs quite rapidly. Three young fledged in 1994, nine in 1995, and now ten in 1996. This is excellent progress, and is a tribute to the total dedication of Jose and Anne.

We were very impressed by the quality of the facilities provided by the Department of Natural and Environmental Resources of the Commonwealth of Puerto Rico. Ann is a fully trained veterinary technician, and the equipment available to her is first class. Record keeping is, of course, a vital part of their work, and in this they cooperate closely with the Luquillo team, as described by Maria Herzog. Being in a remote location, however, can cause unusual avicultural challenges. Here are some excerpts from Joé's monthly report for April 1996:-

BEE ATTACK

"One new fertile pair of PR amazons, consisting of the wild caught male 083 (Rudy) and his mate 184, had their palm log nest taken over by honey bees. The female was in the nest at the time, incubating a clutch of four fertile eggs (all foster HP eggs). There was no indication of the presence of honeybees during the morning shift. The take-over was discovered the next morning. The female was not sitting in her nest and a few honeybees were entering the nest. The nest was checked, the eggs were cold and they were removed. The honeybees became aggressive and started stinging the birds and the project leader. The area was immediately hosed lightly with a mist of water, which stopped the bee attack. The pair was removed and brought into the hospital. Bee stings occurred on the legs and chest of the female, where the feathers had been plucked. The male had been stung on the legs. No medication was administered and the birds were placed in a large flight cage. Both birds were stiff, and the female was ataxic, but soon recuperated.

ELECTRICITY CRISIS

Power was restored on March 20th. The Santa Rosa sub-station was rebuilt and electrical service was restored to the Aviary and pumphouse. The breakdown lasted 31 days . This breakdown forced us to keep the emergency generator in continual operation during the month long incident, with 2-4 hour daily breaks for servicing. The constant noise and fumes produced by these machines was detrimental to both the birds and aviary personnel. Usually trustworthy foster HP pairs became nervous and damaged or destroyed eggs, and incubation by all birds was erratic. It was ill-fated that at the time of the breakdown, fourteen PR Amazon eggs were laid, twelve of which were fertile. Three of these hatched. We can only speculate about the outcome of this season had nothing as dramatic as the breakdown of the substation occurred".

Although this was no more than a flying visit, I was left with two clear impressions. First, that committed and talented individuals are essential to successful avicultural enterprises, whether private or government funded. Second, that single species facilities provide the best (if not only) route to the effective re-establishment of threatened parrot populations. The Echo Parakeet programme is the only other one that springs to mind, but I'd appreciate other nominations.

José tells me that a major new road is being built from North to South very close to Rio Abajo. This is clearly unhelpful to the population of the Puerto Rican Parrot, but José hopes that the impending purchase of a substantial new area of unspoilt forest to the West of the present protected forest will more than compensate.

Finally, I told José and Anne that I would let our readers know that serious volunteers, prepared to stay at least a year, can be accommodated at Rio Abajo. For more details, fax them at + 1.787.376.6625.

Anne Smith (with son Alex) and Jose Rodriguez Luelez at the Rio Abajo Aviary in Puerto Rico Photo: A. Reynolds

Habitat Immersion - The New Wave

by Bob and Liz Johnson

Fifty years ago it was considered standard for zoos to confine animals to small cages, but as people have become enlightened to the psychological needs and feelings of animals, zoos have responded by providing spacious natural habitats. Today, the sight of a lion pacing back and forth in his cubicle or a dolphin swimming in circles in a small tank is looked upon by the viewing public as cruel and inhumane.

Parrots, naturally creatures of the air and boundless space, seem to be the last captive animals for whom a natural life-style is being considered. Many are still living in the small sterile environment of a cage, unable to embrace in any way the unique and wondrous lifestyle for which they were created.

Habitat immersion is the trend in the zoo world now and, happily, there is a growing trend among aviculturists to respond to the same (if not greater) psychological needs and feelings of these free-flying spirits of the rainforest by providing large natural habitats where the birds can live, at least to some degree, in the way nature intended...really flying, interacting with trees, the ground, the rain, and even selecting their own mates.

Dr. Theodore Barber's book, The Human Nature of Birds (page 167) tells us, "Birds not only use flight as a natural means of locomotion, but in beautiful forms as a means of expression... Many species spend hours of the day in the recreation of flight as others spend hours in song. Flight is an art akin to music, with rhythm and feeling of movement as its foundation, a glorious means of expression that birds know well how to use". Birds were designed to fly and flight muscles, like all other muscles, tend to atrophy when not used for long periods.

A bird sitting alone, or even with a mate he did not choose, in a cubicle barely large enough to spread his wings, even though he may be fed a nutritious diet, given quality veterinary care, and kept immaculately clean, is both physically and psychologically a far cry from the bird flying free among the trees and interacting with his environment. Additionally, the exercise plus the psychological benefits of the exhilaration of freedom are strong immune system enhancers.

Concern for conservation should include preserving the spirit of the bird as well as merely the physical form. Many avicultural articles are replete with advice about the importance of keeping the gene pool intact by not hybridising, thus retaining the physical form as nature designed, should reintroduction become feasible. According to these same publications, however, it seems perfectly acceptable to alter all other aspects of the bird. We are inundated with advice on how to edit them to our standards and teach them not to behave like a bird - how to stop chewing, biting, screaming, making a mess, and flying. Then we wonder why birds pluck their feathers, mutilate themselves, or become aggressive. Seldom addressed is how to maintain and enjoy them as a bird. Observing their social interactions and seeing how much fun they have in a natural setting, flying freely, functioning as a part of nature while still enjoying interacting with people is truly a learning experience and gives one an insight into the true marvels and capacities of these incredible beings.

As one spends more time with the birds in their habitat, they begin to see you as a co-inhabitant who can share in their games and play and participate in their various social interactions, rather than as a captor who restricts their activities. Thus a level of love, understanding and interaction rarely experienced by any pet owner is often attained.

In free-flight habitat birds change "buddies" frequently before deciding on a mate, much as humans do. Few species breed in a communal situation, however, so in most cases true pairs should be given their own quarters. But even then, true romance doesn't deserve a prison sentence. They can be given slightly smaller habitats and still be permitted to commune with nature. We have found that birds who select their own mates are more prolific breeders (wouldn't you be?) than those who have one forced upon them.

Charles Munn tells us ("New Yorker", July 30, 1990) that captive birds forget how to live; all of their cultural transmission is lost. They lose what he calls their parrotness and therefore most captive bred birds are not suitable for reintroduction.

Survival skills are not transmitted by osmosis but through experience. Even parent birds who are allowed to raise their offspring in a cage have no way of teaching them how to survive in the wild.

No social, curious, active, and intelligent being can remain happy or physiologically and psychologically stable when permanently restricted to a small sterile environment.

Someday, in a more enlightened age, the practice of confining any bird to a life limited to the synthetic environment of a cage will be viewed as morally and ethically unthinkable, much as slavery is looked back on today. Zoo animals had the voice of the viewing public to speak out for them. The fate of these birds, breeders as well as pets, rests with the conscience of the individual who has them in his care.

Clipped wings or confining cages are not the only alternative to extinction. Habitat immersion is becoming the wave of the future. Those who have economic interests as their primary concern will argue that this is not the most economically efficient use of space, but even they would have to agree that it is the most compassionate. It is also the most pragmatic and realistic way to assure survival, should reintroduction into the wild become an actuality.

Without exception, every bird lover who has seen our habitat has said that they would love to have something like it but that they: 1) don't have the money or 2) don't have the space or 3) both of the above. There are various designs and construction methods for habitats and mini habitats to fit almost any space or budget. With imagination and initiative, plus a large helping of commitment, captive birds can be living life to the fullest in a mini or micro rainforest setting and would be a lot happier for it.

ABOUT THE AUTHORS

Bob and Liz Johnson both have Masters Degrees in Psychology and have been working with parrots for over twenty years. They maintain a quarter-acre free-flight habitat that is sixteen feet high, with trees and plants, which houses one hundred birds, including 11 Hyacinths.

Free flight habitat maintained by Bob & Liz Johnson in Florida

Photo: Liz Johnson

The Behaviour of Grey Parrots in the Rainforest of the Central African Republic

by Diana L. May

The Baaka pygmy people call it "Beeko". Other Central Africans refer to it as either "kukuru" (pronounced koo-koo-roo) or le Perroquet Gris. Readers of this newsletter know it as the Grey Parrot. Because the Grey Parrot (i.e. the nominate subspecies *Psittacus erithacus erithacus*) is commonly traded, bred, and sold throughout the world, perhaps the most commonly held image of this creature is that of an intelligent, talkative pet. This image, however, is quite different from that formulated after observing the Grey Parrot of Dzanga-Sangha Reserve of South-western Central African Republic.

GREY PARROT OF DZANGA

The Grey Parrot of Dzanga lives in a seemingly unique habitat. A first glance captures a prototypical rainforest, abundant with a diversity of flora and fauna. A second glance, however, reveals a mammalian "wonderland". Dzanga clearing, for example, is regularly visited by hoofed mammals including Bongo *Trogelaphus euryceros*, forest buffalo *Syncerus caffer nanus*, Sitatunga *Tragelaphus spekeii*, and several species of duikers. Other mammalian visitors include several species of primates and over 2,000 forest elephants *Loxodonta african cyclotis* (Turkalo 1995). At any time on any given day, one can always find a few Sitatunga and anywhere from a handful to a hundred forest elephants. During the morning hours, one is also likely to see a flock of 30-300 Grey Parrots foraging on plants growing in the basin of the clearing.

Dzangu-Sangha is special for at least two reasons: its clearing and its legal protection. The clearings provide an important source of mineral salts to forest elephants (Turkaloo 1995) at Dzanga-Sangha perhaps many other mammals and birds, e.g. Grey Parrots, that forage or drink at the clearings for long periods of time. These clearings, however, would not be possible without the abundance of forest elephants and other large mammals that knock down the trees, thus creating clearings. If not for the legal protection of the forest and animals within the reserve, forest elephants would not be abundant and perhaps would not have such a significant contribution to the structure of the environment and consequently, the other animals that depend on its structure including the Grey Parrot, which depends on this delicately balanced ecosystem for its very survival.

ALEX'S MIMICRY

Before I travelled to Dzanga-Sangha reserve, I had some knowledge of the Grey Parrot. I had observed the cognitive and communicative capabilities demonstrated in the laboratory by a Grey Parrot named Alex. Alex can vocally request objects and correctly reply to queries about object identity, colour, shape, relative size, same/different, quantities (1-6), and absence, as well as to queries involving various combinations of these dimensions (Pepperberg 1987, 1990, 1993, 1994a-b). I also knew parrots develop best by learning in a social context (Todt 1975, Pepperberg 1994b). Furthermore, I knew about the Grey Parrot's extraordinary mimetic abilities in its natural habitat - vocal mimicry of nine bird species and one bat species (Cruickshank, Gautier & Chappuis 1993). What I didn't know however, was how Grey Parrots typically behave in the wild. Little has been published on the subject (see however, Dändliker 1992) and I had a few burning questions. Are there behavioural counterparts to Alex's abilities exhibited by Greys in the wild? And if so, how does a Grey use these abilities in its natural environment? Furthermore, what is the function of its vocalisations? With these questions in mind, I set out to study how the Grey Parrot lives in the wild.

From mid-June to mid-August 1995, I conducted a pilot study designed with two short-term goals. One goal was to assess the feasibility of a long-term field study of Grey Parrot behaviour. The other goal was to collect preliminary information that will promote Grey Parrot ecotourism as an alternative to current forms of Grey Parrot commercial exploitation.

FIRST GOAL

To achieve the first short-term goal, I am developing an ethogram (a systematic inventory of behaviour). I obtained data on the Greys by observing their behaviour, recording their activities on videotape, and recording their vocalisations on audio tape. The tapes are now being analysed for the ethogram; once complete, the ethogram will provide a detailed description of Grey Parrot behaviour as observed in the DZANGA-SANGHA reserve. Furthermore, the ethogram will provide a substrate for generating hypothesis about specific aspects of Grey Parrot behaviour in the wild, hypotheses that I will subsequently test.

SECOND GOAL

To achieve the second short-term goal, I intend to work with several vehicles including nature tour agencies (i.e. bird tours), conservation newsletters like *PsittaScene*, and avian-orientated organisations like The World Parrot Trust and the International Aviculturists Society. By providing these agencies with specific information about Grey Parrots and mammals that I have watched for extended periods of time in their natural habitat, I hope to heighten awareness of and interest in viewing and photographic opportunities.

Furthermore, I hope to increase knowledge about Grey Parrots in their natural world such that it will invoke a respect to maintain this species in its natural environment and, as a result, perhaps reduce support of and participation in the capture and exportation of such wild, intelligent creatures. For ecotourism purposes, I intend to provide information about the Grey's daily activities (i.e. where and when they forage for food) and about the possible effect of human observation on Grey Parrot behaviour. This type of information will be especially important to the

Diana May training Grey Parrot "Alex"

success of a tour aimed at watching these birds.

OBSERVATIONS

Most of my observations and recordings occurred in two places: at Dzanga clearing and at one active nest cavity. The clearing is rich in mineral salts, particularly calcium (Turkalo 1995). In addition to a variety of mammals, the clearing attracts many birds including Hammerkops *Scopus umbretta,* Palm-nut Vultures *Gypohierax angolensis,* Hadada ibises *Bostrychia hagedash*, Hornbills *Ceratogymna subcylindricus,* Cattle Egrets *Bulbulcus ibis*, and at least several hundred Grey Parrots *Psittacus erithacus erithacus* that forage there daily. The nest cavity, at the height of more than 30 metres in a tree located just a few metres from a road, appeared to be the home of a pair of Grey Parrots. Together, the data collected at these locations comprised the bulk of the information gathered.

A TYPICAL DAY AT DZANGA

On a typical day at Dzanga clearing,a.k.a. the saline, I saw Grey Parrots intermittently during most of the morning hours and infrequently in the afternoon. Typically, in the early morning, several individuals arrive at a favourite tree, usually in the tree, preen, climb, vocalise, interact, and in general, cycle through a complex behavioural repertoire. A few minutes later, a few more arrive. Within the hour, the tree becomes filled with Grey Parrots that together produce a cacophony of whistles, squawks, shrieks, chirps, and other sounds.

The Grey Parrots continue to congregate in the tree until the flock begins gradually to make its way down to an adjacent tree. This tree is shorter and loaded with leaves and serves as a secondary stopping point between the "arrival tree" and the ground. The Grey Parrots perch there as if waiting for "clearance". Most individuals perch on higher branches but a few perch on the end of branches only a few feet above the ground. Eventually, all fly to the ground to feed on the plants that grow there.

Perhaps the most interesting aspect of Grey Parrot foraging behaviour at the saline is the cyclic nature of the flock's movement.Never is the flock entirely on the ground or entirely in the trees. Typically, the number on the ground will ebb and flow, and sometimes that number will increase with each flow until most flock members are on the ground. Only rarely will all flock members be engaged in exactly the same activity.

One exception, in which all Grey Parrots finally move in synchrony, occurs when they take flight either immediately preceding an elephant's intrusion or immediately following the arrival of a soaring raptor. In the case of the elephant, the parrots seem as if they are simply "stepping aside" to let the elephant pass. This interpretation is supported by multiple instances where, once the elephant had passed, the parrots promptly returned to the location.

FLEEING THE SCENE

In the case of the raptor soaring overhead, the parrots seem as if they are "fleeing the scene" completely. For example, I documented at least 3 instances in which they did not resume foraging at the clearing for at least several hours. A comparison of the flock's behaviour in these cases and others may allow me to infer the identity of the Grey Parrot's natural predators, e.g. several raptor species.

At a nest cavity, I recorded different aspects of Grey Parrot behaviour. At least two individuals, presumably a pair, inhabited this nest hole and could be observed there daily. At least one individual seemed to be present during almost all observations. Typically, I saw one of three situations: 1) one individual remained inside the nest cavity while the other sat in the nest entrance , as if engaged in some form of sentinel behaviour. 2) both remained inside the nest cavity, or 3) one individual sat in the nest entrance while the other went out into the forest. These Grey Parrots did not appear to be rearing young nor did they appear to engage in courtship feeding or mating. They did, however, seem to be affiliated in some way. I inferred this affiliation was based on their vocal interchanges such as duetting and mutual activity such as sitting inside the nest cavity together. They also often remained in close proximity to each other for long periods of time. The best part of recording data at this nest cavity was that I could rely on the daily presence of Grey Parrots.

Ultimately, all the data gathered, the recordings made, and the ethogram developed will help me to reach one of my long-term goals to examine the functional role of specific Grey Parrot acoustic signals. I will edit the audio recordings and use them in future playback experiments in which I will play the tapes to the parrots and record their subsequent behaviour. Altogether, this information may provide an explanation for the cognitive and communicative abilities demonstrated by Alex in Dr. Irene Pepperberg's 18-year laboratory study. But, most importantly, this information should provide a clear picture of the life of the Grey Parrot in the wild.

ACKNOWLEDGMENTS

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Parrot Sanctuary Update

Since the announcement of our plans for a Parrot Sanctuary, which were outlined in the May issue of PsittaScene, "adoption" applications have been pouring in to World Parrot Trust headquarters. Our most popular bird 'Oscar' is living up to his name and has already raised over £3,000. Some members have even chosen to set up a regular Bankers Order or Deed of Covenant to ensure long term care for their chosen birds. Adopters receive an attractive certificate which includes a photograph of their bird, and their name joins the list of supporters on display at Paradise Park. The adoption certificates are also proving popular as unusual gift ideas for friends. (Adopters do not, as a couple of members thought, actually take possession of the bird. The donation is merely a way of helping to raise Sanctuary funds).

We have also received offers of good homes for rescued birds and are keeping these on record for the future.

We have decided to introduce another bird to would be adopters. His name is Ruben and he is a Cuban Amazon *Amazona leucocephala leucocephala.*Ruben was found by UK customs officers in the funnel of a German ship with a Latvian crew which had travelled from Chile. The bird was in a cardboard box with only crisps, cornflakes and fruit to eat. Customs officials reported that he was very quiet and subdued at first, but soon perked up after being fed. Ruben has now been placed with another Cuban amazon which is already at Paradise Park.

Ruben the Cuban Amazon

Please keep sending in your adoption requests. Adopters £25 (US$40), Benefactors £50 (US$80) and Patrons £100 (US$160)

World Parrot Trust to Fund Research into Palm Cockatoo.

The following proposal has been prepared by Stephen Garnett.

DESCRIPTION AND DISTRIBUTION

The Palm Cockatoo *Probosciger aterrimus* is a large tropical cockatoo living in Papua New Guinea, Irian Jaya, the Aru Islands and on Cape York Peninsula, Queensland, Australia. The plumage is entirely black, including a flamboyant recurvable crest, but its most prominent features are an enormous bill and large, bare crimson cheek patches. Apart from having slightly larger bills, males resemble females.

There are three subspecies, though their status needs further examination. As described by Forshaw (1989), *P. a. aterrimus* is found in the Aru Islands, through southern Irian Jaya to the Gulf of Papua. The questionably distinct P.a.goliath, reputably slightly larger, occurs from Vogelkop in Irian Jaya through central New Guinea to eastern Papua, *P.a.stenolophus,* which has narrower crest feathers, is found on Japen Island and east from Geelvink Bay in Irian Jaya to Collingwood Bay in Papua New Guinea.

POPULATION AND STATUS

In New Guinea and Irian Jaya the species is considered reasonably common away from major settlements (Forshaw 1989) but is scarce on the Aru Islands (Smiet 1985). It has, however, disappeared from settled areas (Bell 1982, Beehler 1985, Forshaw 1989). Overall it is thought to be vulnerable to extinction because the population, though widespread, is generally sparse (Beehler 1985).

In Australia the status of the species has been listed as Insufficiently Known (Garnett 1992) pending surveys of population size and trends. It is listed as Vulnerable under the Endangered Species Protection Act (1922). Though described as common by Forshaw (1989), Storch (1996) reported that they occurred patchily and at low densities in both the Lockerbie Scrub at the tip of the Peninsula and at Iron Range and, in aerial surveys, found only 15 birds along 155 km of gallery forests surveyed by helicopter in central Cape York Peninsula.

HABITAT

In New Guinea, Palm Cockatoos have been described as occupying rainforest, tall secondary growth, rainforest edges, partly cleared areas, monsoon woodland and some dense savanna woodland (Coates 1985). The relative importance of these habitats is unknown and obviously varies between areas but the cockatoos can live in pure rainforest.

This appears to contrast with the population in Australia where the birds appear to need both woodland and rainforest. Of 30 nests found by Storch (1996), 93% were found in woodland trees averaging about 40 m from the rainforest's edge. Much of the feeding also occurs in the woodland as well as the rainforest. However, though they use many woodland resources, Palm Cockatoos are always associated with rainforest, including riparian ribbons fringing the rivers that traverse the woodlands of central Cape York Peninsula (Blakers et al. 1984).

DIET AND FORAGING ECOLOGY

Palm Cockatoos have been recorded eating a wide variety of fruits and seeds both from the canopy and, less often, from the ground (Forshaw 1989). They have been reported extracting insects from dead timber, but the evidence is equivocal (Forshaw 1989). The seasonal availability of different foods is unknown but Storch (1996) suggests they feed in the rainforest in the wet season and the woodland in the dry season.

REPRODUCTIVE BIOLOGY

The single egg of the Palm Cockatoo is laid in a large hollow in the trunk of a tree. Within the home range of a cockatoo, thought to be about 0.5 sq. km, other hollow trees are used for display purposes (Wood 1984, 1988). Incubation in captivity takes 31-33 days with the nestling period lasting 88-103 days (Forshaw 1989, Sindel and Lynn 1989). The period of juvenile dependence in the wild is unknown. At Iron Range (Storch 1996) nests were built in trees from 6 to 37 m in height (mean 16 m) with nest entrances being from 4 to 21 m above the ground (mean 13 m). Two thirds of the nests were in live trees, mostly eucalypts, the remaining nest trees being dead. Nest hollows tended to point upwards and, of the twenty for which an origin could be determined, 13 had been caused by windshear. Some evidence has been found of competition for nest hollows, and renesting occurred in one hollow immediately after a chick fledged, suggesting queuing for the hollow (Storch 1996). Active nests have been found on Cape York Peninsula in all months of the year though there appears to be a peak between August and March (Forshaw 1989, Storch 1996).

THREATS

Hunting: Hunting is thought to be the main reason for the absence of cockatoos around major settlements in New Guinea (Bell 1982, Beehler 1985, Forshaw 1989) and was thought to have decreased the number at Cape York early this century (Barnard 1911). The possibility of hunting having an adverse impact in Australia has been the subject of controversy, but there is no evidence of significant numbers being taken, or information on the level of take that could be sustained (Garnett 1992). At Iron Range killing a Palm Cockatoo is considered to bring the hunter bad luck (Storch 1996).

Trapping: An unknown number of Palm Cockatoos are thought to be exported from New Guinea, Irian Jaya and possibly Australia. No declines have been attributed to this trade but nor is relevant population data available. No convictions for Palm Cockatoo capture and smuggling have ever been made in Australia (Storch 1996).

Shortage of nest hollows: Tree-hollows are generally formed after wind or fire damage allows invasion of the wood by fungus and/or termites (Mackowski 1984). However, information on the formation rate of hollows suitable for cockatoo nesting is needed, particularly in respect of fire regime in Australia, and logging regimes elsewhere.

OBJECTIVES

(1) To determine factors limiting the population size of the Palm Cockatoo in Australia and New Guinea.

(2) To prepare recommendations that will promote the conservation of the species throughout its range.

ACTIONS

Action 1: Determine breeding

Juvenile Palm cockatoo in the wild

density, nesting biology and recruitment rate in a range of habitats in Australia and New Guinea.

Aims To obtain a baseline of data on the breeding biology that can be used to establish trends and predict the effects of hunting, trapping, and habitat change.

Justification A baseline of recruitment and breeding density is essential for determining future population trends and factors likely to affect them. Factors affecting recruitment such as predation rates, the identity of predators and adult mortality rates are also important for future management. The apparent restriction of nests to rainforest margins in Australia, in contrast to the occupation of rainforests by other populations, also has important implications for habitat management, particularly with respect to fire regime. Habitat management of the rainforest that will benefit Palm Cockatoos is likely to benefit other threatened bird taxa.

Methods At three sites in Australia (Iron Range, Pajinka and Weipa) and at Crater Mountain Wildlife Management Area (CMWMA) in Papua New Guinea the distribution of nesting sites will be mapped over as wide an area as practicable, at Iron Range building on the work of Storch (1996). These sites would then be visited at monthly intervals through the breeding season to check for levels of activity. Active nests will be monitored weekly and a selection of nests will be monitored more closely using human and electronic surveillance to detect predators. Habitat characteristics, and processes affecting those characteristics, will be determined for all nests. In Australia particular attention will be paid to the role of fire in habitat processes, building on the current research of P. Stanton (QDEH).

Funding Requirements

Funds are required for part of the salary of the principal investigator(s) for three years, for the salaries of casual assistants at Iron Range, Weipa, Pajinka and CMWMA, travel within Australia and, annually, from Australia to New Guinea, electronic surveillance and climbing equipment and computing/administration.

Action 2: Study hollow availability, formation and loss.

Aims To measure the availability and turnover rate of hollows suitable for nesting in a tropical environment.

Justification The possible shortage of hollows has been identified as a threatening process for numerous species of Australian wildlife (Garnett and Loyn 1994). The significance of the apparently high rates of loss of Palm Cockatoo nest trees cannot be determined without knowledge of the availability of sites and the causes and rates of formation.

Methods During the search for cockatoo nests, all likely hollows will be investigated and mapped. At each study site smaller plots will be selected in which all possible hollows will be investigated to determine origins of the hollow, measured, numbered with permanent tags and mapped.

Action 3: Undertake genetic comparisons between populations in New Guinea and Australia.

Aims To determine the genetic distinctiveness of different populations of Palm Cockatoo.

Justification The Australian population of Palm Cockatoo has been isolated from the populations in New Guineas for at least 10,000 years (Garnett 1984) and currently the three subspecies are ill-defined (Forshaw 1989). The development of a genetic test that could distinguish the different subspecies would help identify the origins of Palm Cockatoos entering the bird trade and assist with the management of populations already in captivity.

Methods Genetic markers for the different species of Black-Cockatoos *Calyptorhynchus* spp. Are being developed by Dr Les Christidis at the Museum of Victoria.

Action 4: Examine habitat use, diet and seasonality of food availability.

Aims To determine whether food availability is limiting Palm Cockatoo abundance.

Justification There have been no systematic observations of the diet of the Palm Cockatoo or of variations in the availability of food. In Australia much of the species' food comes from woodland, begging the question of why they are tied to rainforest. In New Guinea they appear to feed entirely from rainforest. In neither area is it known whether food is limiting at any time of year.

Methods In the first year most birds encountered will be followed for as long as possible to construct monthly time budgets and establish a seasonal pattern of resource use. In the second and third years the pattern of availability of resources will also be followed. The phenology of food plants will also be examined by examination of herbarium specimens.

Action 5: Prepare recommendations that will promote the conservation of the species throughout its range.

Aims To translate the results of the research into recommendations that can be adopted by conservation managers.

Justification For the research to benefit the birds the result must be available for conservation managers. Wherever possible, this should be done most effectively by involving land managers in the research (see Actions 1,2 and 4).

Methods All the results are to be initially analysed during the research period and published in a form that is accessible to a broad audience. Annual reports will be prepared for all funding agencies.

FUNDING SOURCES

Funds for the project are being sought from the following organisations:

Wildlife Conservation Society: to meet travel costs and most of the Principal Investigator(s) salary.

Queensland Department of Environment and Heritage (QDEH): to cover accommodation at Lockhart River, administration and most computing costs, logistic support. Also cover some of the costs of the Principal Investigator(s) (possibly in the form of a staff member's salary time).

Australian Nature Conservation Agency: funds will be sought from the Contract Employment Program for Aboriginal people in Natural and Cultural Resource Management to enable employment of aboriginal staff from the Injinoo and Lockhart River communities.

World Parrot Trust : to meet equipment and some computing costs.

ADMINISTRATION

Progress with the research will be assessed by a steering committee consisting of representatives of the Wildlife Conservation Society, the Queensland Department of Environment and Heritage, the World Parrot Trust, Comalco, Lockhart River Council, Injinoo Council, the relevant government department in Papua New Guinea.

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Above: Palm cockatoo hand-reared at Paradise Park, UK

INTERNATIONAL NEWS ROUND-UP

DENMARK

WPT SCANDINAVIA LAUNCH

On June 28th, our fastest growing branch, WPT Denmark, was transformed into WPT Scandinavia.

Over the past year many new members have joined from Sweden and Norway, and it was time to re-name the branch. Our Scandinavian committee, headed by Line Wadum and Michael Iversen, had arranged for us to have the use of facilities at the British Embassy in Copenhagen. We are very grateful to the Chargé d'Affaires Mr.Francis Gallagher and his staff for the very generous help they provided. An audience of 130 heard presentations by WPT trustees Mike Reynolds and Andrew Greenwood, and learnt of the new initiatives being handled directly by the WPT Scandinavia committee.

As a direct result of the meeting several members offered to help the work and expansion of the branch. One member has designed an outstanding range of jewellery based on parrots, including the Palm Cockatoo, symbol of WPT. In the next issue of *PsittaScene* we expect to offer these designs to our members. All in all a very satisfactory occasion, and the support of the Foreign and Commonwealth Office indicates that the *World Parrot Trust* is seen to be an effective organisation deserving of official assistance.

NETHERLANDS

The 11th Parrot Symposium, held on April 21, 1996, was organised by The *World Parrot Trust - Benelux*. This time the location was the well known Safari Park Beekse Bergen in the Netherlands. A host of international lecturers made this symposium an interesting and worthwhile happening. It was attended also by an international public. The lectures covering legislation by WWF Traffic department - W. Luijff, birdpark management in Park Paradisio in Belgium by curator S. Patzwahl, a breeding centre in the Philippines by Dr. Janeczek and Lories in their natural habitats by J. Hubers. *The World Parrot Trust's* Parrot Portfolio was presented by Hon. Director M. Reynolds and H. Assink, and Paradise Park's history by D. Woolcock, curator. In the evening a buffet concluded this symposium in an agreeable and relaxed way. The Symposium Commission, under the chairmanship of Ruud Vonk assisted by Nico Zonneveld and Romain Bejstrup, made this another achievement. It was made possible through the assistance of the symposium commission members' wives who deserve a special thanks. Thank you Ria, Jenny and Gerda. We also thank , Frits and Tineke Vilters, and WPT Benelux Management

AUSTRALIA

A new special interest group devoted to the study of wild parrots in Australia, New Zealand and Oceania is to be formed within the Royal Australian Ornithologists Union. The BIRDS Australia Parrot Association will focus interest on some of the region's rarest species, like the Kakapo and Orange-bellied Parrot, as well as some of the most abundant and difficult to manage, like the Long-billed Corella and Galah. As most threatening processes in the region - clearance of habitat, change in fire regime, loss of hollows etc. - also threaten at least one species of parrot, the Association will promote discussion and an exchange of ideas that should benefit many other bird species as well. The Association will have a newsletter, "Eclectus", run expeditions and projects and prepare policies on parrot-related matters. It will be formed officially on 7th October 1997 at a meeting in Albany, Western Australia but members joining before the end of September will receive the first issue of "Eclectus", will be paid up until the end of 1997 and will have the chance to vote for the founding committee of the Association. Forms for membership, which costs AUS $18 or less, are available from the Membership Officer, BIRDS Australia Parrot Association, c/o RAOU, 415 Riversdale Road, Hawthorn Estate, Victoria 3123, Australia.

WPT Scandinavia is launched

Photo M. Cadovius

ECUADOR

Three one-day field trips were made to the Loma del Oro forest in Loja Province, Ecuador, in search of the Red-faced Parrot *Hapalopsittaca pyrrhops* with the help of Fundacion Ecologica Arcoiris. (See article by another researcher, Paul Toyne, in May issue of *PsittaScene*). Field trip dates were February 11 and 13 and April 4 1996. On the first visit the Redfaced-Parrot and the Golden-plumed Conure *Leptosittaca branickii* were both recorded, the first after 4,5 hours of walking and second after 2.5 hours. Both species are rare. Four *branickii* were observed in flight, calling constantly. They were heard or observed for 20 minutes.

At the second location two Red-faced Parrots were heard and one was seen to feed on an 18m tall *Weinmannia* tree. Both birds left after 15 minutes. The birds were less than 20m from the access road. During the third visit two Branicki's Conure were briefly observed. The birds appeared smaller than is normal with shorter tail feathers than expected; possibly they were juveniles, suggesting that this conure breeds there. The records of these two parrots at Loma del Oro represent new locations for these endangered species.

Unfortunately, given the current rate of clearing, these forest fragments will probably be gone within 20 years. There is some good quality cloud forest, with no disturbance to the floor due to grazing. Trees are well covered in mosses, lichens and bromeliads. *Podocarpus* trees are fairly common; they are important as the only conifer native to Ecuador. Public awareness and environmental education in the area is urgently needed. (From a report by Jeremy Flanagan and Cristina Galvez).

WORLD PARROT TRUST AFRICA

A report from Prof. Mike Perrin

My colleagues (Dr. Colleen Downs, wife of the late Olaf Wirminghaus, Dr. Richard Selman and his partner Margaret Hunter, Craig Symes, Luthando Maphasa and Stuart Taylor) and I have established the University of Natal's Research Centre for African Parrot Conservation: and I have been invited by the Director of the Endangered Wildlife Trust to create the "Parrot Study Group". This will aid us considerably in fulfilling the aims of the World Parrot Trust (Africa) and does not mean that we'll be devoted to 'blue sky research' of little relevance to aviculturists, conservators, ornithologists or anyone who has an interest in parrots.

Recent visitors

We recently hosted Rosemary Low (who has written 20 books on parrots and managed the collections at Loro Parque and Palmitos Park), Val Moat (who is the stud book keeper for Cape parrots in the UK) and an avid photographer and breeder of Ruppells Parrots, and Stacey Gelis, an Australian avian veterinarian. We held a workshop/discussion group with aviculturists from many parts of KwaZulu-Natal, on a range of topics from captive breeding of rare parrots: legislation concerning

import and export of parrots (locally and overseas): avian nutrition: inbreeding, genetics and the need for new blood in established collections: conservation biology and habitat preservation for our rare parrots; the illegal trade and so on. Rosemary very kindly presented two talks, the first on "Conservation of Parrots" and the second on "Captive Breeding of Cape Parrots". Each was stimulating, erudite and very well illustrated, as was Val's talk on "Breeding Ruppells Parrots in Captivity". Rosemary's benevolence extended not only to her time and enthusiasm, but also to the donation of three books, including two of her own "specials" to be raffled, with the proceeds going to the WPTA. I'm sure you will join me in thanking Rosemary, Val and Stacey for their visit, stimulation and support.

Cape Parrots

Fortunately we were able to show our gratitude by a short excursion into the field to see Cape Parrots in the wild, thanks largely to the sterling efforts of Colleen Downs and Craig Symes.

The detailed ecological study of the Cape Parrot in the wild, initiated by Olaf, is being continued by Craig, and its first phase will be completed by the end of the year. We know a great deal about the habitat, food and nesting requirements of these magnificent parrots. One finding has shown that the Knysna or Cape parrot proper is in fact a separate species from the more northerly and West Africa forms. This means that South Africa's parrot is endemic, rare and more vulnerable than originally anticipated and will require urgent and specialist attention to secure its preservation. We are confident that this can be done if habitat loss and the illegal trade can be prevented. Whatever you do don't purchase unregistered or wild-caught birds unless you wish to contribute to the extinction of the Cape Parrot.

Richard and Margaret are conducting similar studies on Ruppells Parrot in Namibia where we are working in close collaboration with Dr. Rob Simmons, the ornithologist with Namibia's Department of Nature Conservation. The major problem being faced there is an increase in demand for birds locally and overseas, poor breeding of captive birds, and a growing illegal trade.

Stuart Taylor has commenced a similar study of Brown-headed Parrots in Kruger Park, which we hope to extend to Mozambique. In addition to studying the bird's ecology, he and Luthando will also investigate the possibility of sustainable utilisation of this relatively common species. This, together with a study of the economics of captive breeding, legislation, education/public awareness and capacity building in rural communities is the focus of Luthando's work on selected species of African parrots. We expect that future research will investigate, with local collaboration or leadership with local biologists, studies of the endangered Black-cheeked Lovebird in Zambia, Fischer's Lovebird in Tanzania (led by Prof. Kim Howell of the University of Dar-es-Salaam), and the Grey-headed Lovebird of Madagascar.

These priorities have been identified by CITES (Convention on International Trade in Endangered Species), the SSC (Species Survival Committee) of the IUCN (World Conservation Union), and increasingly the World Parrot Trust and Birdlife International. I have just completed the African species accounts for the global Action Plan for Parrots, on behalf of the IUCN, following last year's World Parrot Summit. I am now beginning to capture and collate information on all African parrots and lovebirds for a book which I hope will appear in a few years from now. It will review all known information on each species in captivity and in the wild, but will also discuss the paucity of the African parrot avifauna (why Africa has relatively few parrot species compared with Australia or South America): habitat loss and fragmentation: illegal trade and legislation: sustainable harvesting, captive breeding and so on.

All of these studies cost money and we continue to seek further sponsorship and financial support. At present I am running the branch myself and would like help with membership lists, payment of fees, preparation of articles for this newsletter; and instructions from the membership as to what they would most like to read about. I can solicit articles from bird keepers and breeders, conservators, veterinarians and researchers. Future newsletters might include detailed accounts of individual species; aviary and nest box design; hybridisation and inbreeding; psittacine nutrition; parrot watching in the wild; the biogeography (distribution) of African parrots; pending legislation; conservation of endangered species

BRAZIL

LAST CHANCE FOR AMNESTY ON SPIX'S MACAWS

On October 1 1996 the amnesty on the holding of Spix's Macaws will cease. Anyone subsequently found to be holding this species, other than within the official Spix's Macaw Recovery Committee group, will be liable to prosecution.

It is interesting to note that the original amnesty from prosecution was largely negotiated by Tony Silva while employed as Curator of Loro Parque, Tenerife. At that time three holders of this species outside of Brazil took advantage of the Brazilian Government's amnesty offer. These were Mr Antonio de Dios of Birds International, The Philippines, Dr. Josef Hammerli from Switzerland, and Mr. Wolfgang Kiessling of Loro Parque. So far as we know, no other foreign holders of Spix's Macaws have declared themselves to date.

BRAZIL/FRANCE

SMUGGLED LEAR'S MACAWS FOUND IN FRANCE

Report from Roland and Julia Seitre. June 19th. Charles de Gaulle airport. On a routine patrol, customs officers ask a Singapore national on transit from Brazil to open his carry bag. Inside, sound asleep, are two Lear's macaws, one of the world's rarest parrots.

The Singaporean, a serviceman, produces a Chilean CITES permit (written in Portuguese), obviously faked, and argues with French officials that they are not to bother him as he is only in transit. Both birds are confiscated pending scientific examination but man is allowed, despite offence, to leave with his flight. Charges might still be pressed although follow up in Singapore for a wildlife offence is questionably efficient.

Both birds have been readily identified as Lears, they seem to be young birds, and they are since kept in quarantine. They are to return to Brazil in July where responsible authorities will have to decide on their fate.

The whole sad affair pinpoints that traffic even in the rarest and supposedly well protected species, is still proceeding. More than anything, it tends to confirm (see C.Munn, *PsittaScene Vol 7 no 4 Nov 95*) why this species is not recovering in the wild despite years of official protection. Trapping is still going on, not only for the Brazilian market but also the Asiatic from where the birds can go wherever...

As for this Singaporean, it was not his first trip; what he previously transported is unknown.

The rare Spix's Macaw Photo World Parrot Trust

ACTION PAGE

EXCLUSIVE SALES ITEMS!

Above: WPT Christmas Card from a photograph by Bonnie Jay

You will find our new Sales leaflet in this edition of *PsittaScene*. It is packed with exciting exclusive items which will make original presents for Birthdays and Christmas. Postage is included in all the prices.

We have a very attractive Christmas card this year, which features one of Bonnie Jay's delightful parrot compositions. Cards are available at £4.50 (US$9) for a pack of ten. Personalised cards can be provided for quantities over 100 provided you place your order before 1st October. Price £ 5.00 per 10.(US$10)

Choose a "Parrotroopers" T-shirt , specially for our younger supporters. Treat yourself to a *World Parrot Trust* ceramic mug or a pack of Habitat notelets.

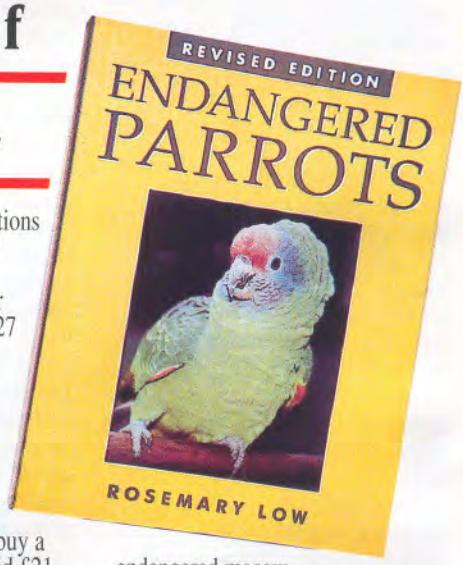
Send your order to Vicki Woolcock, *World Parrot Trust* UK UK telephone 01736 753365 or fax 01736 756438. Credit cards preferred. Your local branch will be pleased to fax requests to us.

Help us DOUBLE OUR MEMBERSHIP

As mentioned on page 1 of this issue, we need to double our membership. This is the quickest way to increase our ability to influence attitudes towards the parrots, leading to better prospects of survival for wild parrots, and better conditions for many captive birds.

So although on this page we are usually reporting our actions to you, on this occasion we are asking for **action from our members!** Please seek out a fellow aviculturist, bird club member, or a friend or colleague interested in wildlife, give them the enclosed PARROT PORTFOLIO, and ask them to join *the World Parrot Trust.* THANKS!

WIN A COPY of Endangered Parrots by Rosemary Low



We have two copies of Rosemary Low's (Endangered Parrots) to give away to members. This book is essential reading for all those concerned with the plight of threatened parrots. This is what Michael Reynolds said about it (*PsittaScene*, November 1994): "Endangered Parrots" is comprehensive, covering every endangered species of parrot in the world. I believe it is unique in this. The style is crisp, packed with information, immensely readable and authoritative. Open this book at any page and you will be fascinated. Apart from giving historical information followed by up-to-the-minute reports on the current status of each endangered species, Rosemary covers the broad issues affecting parrot conservation. There are chapters on deforestation, the extra vulnerability of island populations, the role of aviculture in conservation, captive breeding, reintroductions, and much more'.

If you can answer the questions below about the Trust, send your answers to EP Competition, WPT, Glanmor House, Hayle, Cornwall TR27 4HY, UK, to arrive by October 15. Simply give your name and address and the question number followed by a,b or c. The first two correct answers drawn will receive a free copy. Incidentally, you can buy a copy from the Trust, post paid £21 or $34. Send your order, with cheque, to the address given above. We thank Blandford Cassell for donating the two copies for the competition.

Questions:

1) Which of the following species had the smallest wild population when the Trust started to support the conservation project: a) Lear's Macaw b) Echo Parakeet c) St. Vincent Parrot.

2) The survival of which critically endangered macaw is being aided by the Trust's long-term scheme to grow and transplant its food source: a) Lear's Macaw b) Buffon's Macaw c) Red-fronted Macaw?

3) Which parrot was the subject of the Trust's first special fund to save one particular species: a) Goffin's Cockatoo b) Hyacinth Macaw c) Mexican Thick-billed Parrot?

Results will be published in the next issue.

YOU CAN HELP US...

Charles A. Munn III PhD.
Founder Trustee WPT-USA. Senior research biologist. Wildlife Conservation Society.

Andrew Greenwood MRCVS
Founder Trustee of WPT-UK and WPT-USA. Zoo and wildlife veterinary consultant.

Audrey Reynolds
Director, Paradise Park. Founder Trustee of The World Parrot Trust UK.

Rosemary Low
Author of 'Endangered Parrots' and 20 more parrot books. Editor of PsittaScene.

Wm. Richard Porter MD
Director of the International Aviculturists Society. Founder Trustee of WPT-USA.

David Woolcock
Curator, Paradise Park. Founder Trustee of The World Parrot Trust UK.

Michael Reynolds
Founder of The World Parrot Trust, Hon. Director of WPT-UK, Trustee of WPT-USA.

...SAVE THE PARROTS!

Lear's Macaw

Echo Parakeet

Red-tailed Black Cockatoo

St. Vincent Parrot

Red-vented Cockatoo

Red-tailed Amazon

Hyacinth Macaw

Join us.

Become a member of the World Parrot Trust, receive our *PsittaScene* newsletter, know that you are actively contributing towards our aims.

Help fund our Projects.

We are currently supporting parrot conservation, education and welfare projects in Africa, Australia, Bolivia, Brazil, the Caribbean, Equador, Mauritius, New Zealand, Paraguay, Peru and the Philippines. Your generosity towards the parrots could help us expand current schemes and start new ones.

World Parrot Trust

Aims of the Trust.

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

These aims are pursued by:-

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

YES, I WANT TO HELP SAVE THE PARROTS OF THE WORLD

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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OR: I enclose cheque payable to the WPT ☐

I heard about the World Parrot Trust from .....

PLEASE SEND COMPLETED FORM TO 'WORLD PARROT TRUST' AT:-

UNITED KINGDOM
Glanmor House, Hayle, Cornwall TR27 4HY

USA
Cynthia Webb, PO Box 341141, Memphis TN 38184

BENELUX
Pierre Claassens, Deuterstraat 13, 5223 gv, s-hertigenbosch, Netherlands

CANADA
Mike Pearson, PO Box 29, Mount Hope, Ontario LOR 1WO

DENMARK (SCANDINAVIA)
M Iversen, Alsikemarken 48, 2860 Soborg.

FRANCE
J & G Prin, 55 Rue de la Fassiere, 45140, Ingre.

GERMANY
G & D Harries, Vodestr. 39, 44625 Herne.

ITALY
Freddie Virili, via Matarus w.10, 33045 Nimis, Udine.

AUSTRALIA
Peter Sipek, 1 Rossell Pl., Glenfield, NSW 2167.

AFRICA
Mike Perrin, Private Bag XO1, Scottsville, Natal, South Africa.

SWITZERLAND
Lars Lepperhoff, Sagemattstrasse 31, 3097 Liebefeld.

PARROTS IN THE WILD

Photo Diana May

AFRICAN GREY PARROT

Psittacus erithacus erithacus

An ascending flock of Grey Parrots creates a soft palette of grey and red that is reminiscent of an impressionist painting. Because the Grey Parrot is commonly traded, bred and sold throughout the world, the widely-held view of this intelligent, talkative pet is perhaps a bit different from this image taken at Dzanga-Ndoki Park in the Central African Republic. Here at Dzanga Bai, animals including hundreds to possibly thousands of Grey Parrots gather daily to forage or drink. From mid-June to mid-August 1995, I studied the behaviour of Grey Parrots at Dzanga-Sangha Reserve to gain knowledge of this species' not-well-understood behaviour as it occurs in the wild. The information gathered may provide some insight into these birds' use of the cognitive capabilities demonstrated by Alex, a Grey Parrot, in laboratory studies by Irene Pepperberg. This study was made possible principally by the *World Parrot Trust* and the International Aviculturists Society, and also grants from the University of Arizona and the American Museum of Natural History. Further details in this issue of *PsittaScene*. Diana May.

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