

# FINAL REPORT

## BP CONSERVATION PROGRAMME



### **Alder amazon–neglected issue in conservation priorities- defining its population status and distribution.**

**Bronze Award 2003**

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the bp conservation programme





## SUMMARY

This project is the first contribution to the knowledge of the species' population levels of Alder amazon (*Amazona tucumana*) throughout its distribution in Argentina. We recorded 5387 individuals in 12 of 18 localities, 7 are new localities for the species. Two areas concentrate 94% of the individuals recorded, one extends between El Nogalar and San Francisco and the other from Sierra (Sa.) de Santa Bárbara to El Rey National Park (NP), these two areas hold the last mature cloud forests remnants as well as continuous forested areas. Long term efforts for the conservation of this endemic species should be prioritized on these areas by providing legal protection to remnant forests (e.g., basin-protection forests) and the promotion of the creation of privately-owned reserves (e.g., through tax exemptions). The largest Alder amazon population was detected in Sa. de Santa Bárbara, is not included in protected areas, and is seriously threatened by different human activities. Las Lancitas Provincial Reserve nearby should be extended towards the upper part of Sa. de Santa Bárbara to protect the breeding habitat of the species. The number of Alder amazons recorded represent less than the third part of those exported between 1985 and 1989 (18,641), what demonstrates that those captures had a strong effect on wild population levels; this information contributes to evaluate future trends of the species. We identified 4 roosting sites, made a first description and characterization of a roosting site for Alder amazon, and found in Sa. Santa Bárbara a roost that harbors the largest population known for the species. Alder amazon populations in this roosting sites should be monitored. We identified two sites important for nesting: Sa. Santa Bárbara and San Francisco, both sites had an intensive forest exploitation which continues in the latter. Forest exploitation should be regulated by forbidding cutting and extraction of trees > 40 cm in DBH with cavities, and snags, and the implementation of a tagging system in these trees of importance to Alder amazon and other cavity-dependent fauna. Conservation actions for Alder amazon should be coordinated at a regional level between the Provinces of Jujuy and Salta together with National Parks Administration and Las Yungas Biosphere Reserve Committee. Provinces should create specific regulations to protect the species and penalize the capture and trade of Alder amazons. As a precautionary measure, we propose that the species be maintained in Appendix I of CITES and in the Vulnerable category. It is essential to continue with research on the ecology and reproductive biology of the species and to study the situation of Alder amazon populations and its habitat in Bolivia to have a complete view of the conservation needs of the species and its status.



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## INTRODUCTION

Psittaciforms make up one of the most threatened bird groups in the world. Indeed, 30% of the species are endangered, 15% of which are Neotropical (Collar & Juniper 1992). The reason for this group's status is habitat loss, trade for pets, and a combination of both factors (Collar & Juniper 1992). Alder amazon (*Amazona tucumana*) (Fig. 1) is a practically unknown endemic species whose population numbers declined drastically in the 20<sup>th</sup> century; therefore it has been considered a rare species (Collar & Juniper 1992, Juniper & Parr 1996). A total of 18,641 Alder amazons were exported from Argentina in 4 years during the 80's (Nores & Yzurieta 1994); this fact, together with habitat degradation and loss, led to the striking decline. The species is included in CITES I and is considered vulnerable, with high conservation and research priority (Parker et al. 1996).

Alder amazon's critical habitat is composed of Alder and *Podocarpus* forests, a narrow forest strip between 1700-2200 m in altitude found in montane forests from northwestern Argentina and southern Bolivia (called Yungas) (Fig. 2). Alder amazon's distribution range extends from Santa Cruz department in Bolivia (Fjeldsa & Mayer 1996) to the province of Catamarca in Argentina. At present there are no population numbers (the term "population" in specific sense used in IUCN 2001) estimated for this species. The last highest record for Bolivia was 900 individuals in 1992 in Chuquisaca (Fjeldsa & Mayer 1996). The last most important record in Argentina was 1200-2000 individuals in 1976 in El Rey National Park (NP) (Nores & Yzurieta 1994).

No detailed studies have been conducted on the ecology or conservation status of Alder amazon. Previous studies have been mainly descriptive (Wetmore 1926, Orfila 1938, Bond & Meyer de Schauensee 1943, Hoy 1968), what becomes a problem when comparing data to detect population trends.

Alder amazon nests in tree cavities in Alder and *Podocarpus* forests (Canevari et al. 1991). Protecting remnants of these forests is crucial for the species survival (Collar & Juniper 1992). During fall and winter, flocks of Alder amazons descend to premontane forests (Pasquier 1980, Mosa 1992) and adjacent valleys. These altitudinal seasonal movements may be related to changes in resource availability and unfavorable climatic events. When descending, the species has been observed with the Blue fronted amazon (*A. aestiva*) in citrus plantations (Mosa 1992) where it is subject to capturing, which adds another threat to the species. Moreover, more than 90% of original premontane forests have already been lost.



Figure 1. Alder amazon (*Amazona tucumana*).

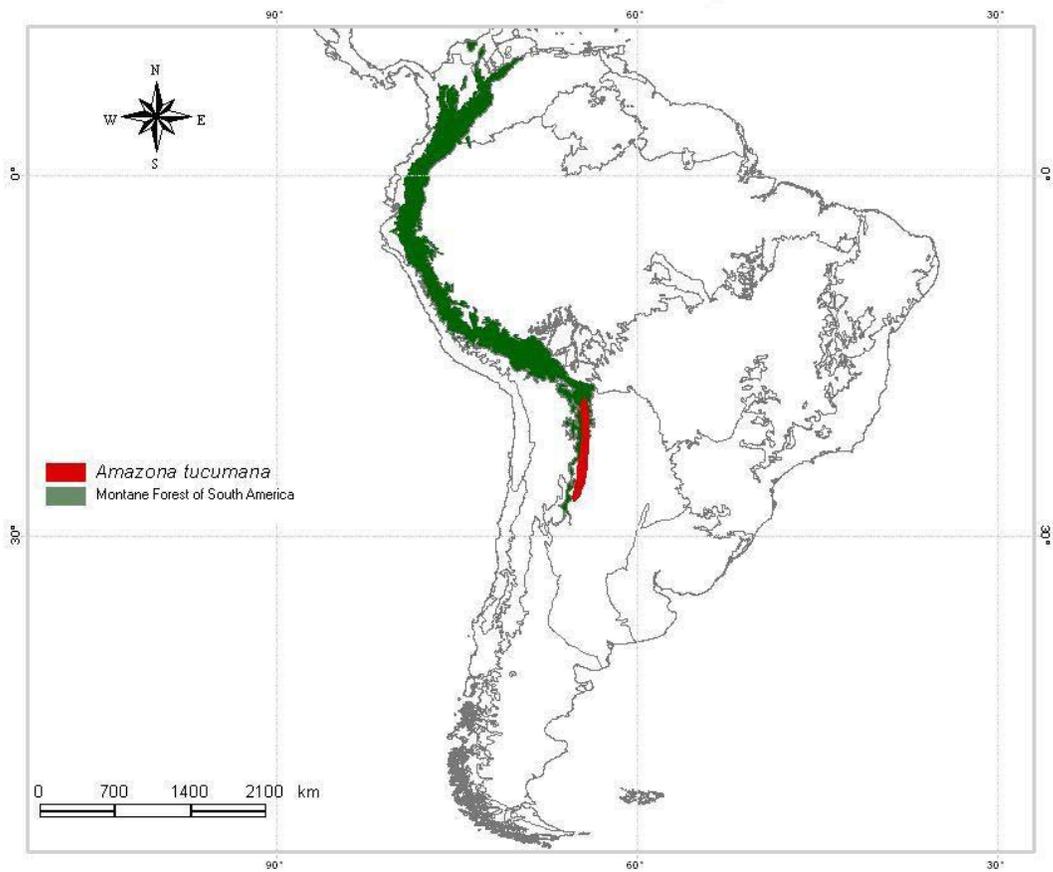


Figure 2. Distribution of montane forest and Alder amazon (*Amazona tucumana*) in South America. Map extracted from Ridgely et al. (2003).



No specific actions have been taken to ensure the conservation of Alder amazon. While some protected areas hold portions of habitat suitable for Alder amazon, they are small and isolated, and under strong external pressure from anthropogenic resource use. A successful conservation strategy must include a regional approach. Also, a reliable assessment of the population status, specifying size, distribution and trends is of great importance. Determining the essential habitat variables for this species is an indispensable condition to outline a successful habitat conservation plan. Only with all the basic information will it be possible to give the Alder amazon the necessary attention to ensure its conservation.

The Yungas in Argentina (Fig. 3) extend from the border with Bolivia (22° S) to the north of the province of Catamarca (29° S), covering the provinces of Salta, Jujuy and Tucumán. These forests are distributed irregularly along the Subandean mountain ranges, forming isolated patches. The Yungas extend along 700 km with only 50 km in width, and an estimated area of 4 million ha (Brown 1995). Together with the Paranaense forest, they are habitat to more than 50% of the country's biodiversity, although they constitute less than 2% of the country area (Brown et al. 1993).

The Yungas have an altitudinal gradient that determine three different plant communities:

1. Premontane forest: between 400-700 m in altitude; semideciduous trees dominate; 41 tree species and succulent plants are endemic to these forests ( Brown & Grau 1993). Unfortunately, 90% of this stratum has already been converted to agricultural use and the remnants are subject to an intense and destructive forest extraction regime.
2. Montane forest: 700-1500 m in altitude; perennial trees dominate; it has steep slopes; selective forest extraction is practiced.
3. Cloud forest: 1500-2200 m in altitude, with Alder (*Alnus acuminata*) and *Podocarpus* (*Podocarpus parlatorei*) forests that have been heavily exploited for timber production. These forests have been converted to grasslands in their upper limit by local people, who burn the forest to promote grass resprouting for livestock. Brown & Grau (1993) have indicated that the only undisturbed remnants of *Podocarpus* mature forests are in El Rey NP and El Nogalar Natural Reserve (Fig. 4) (both located in Salta province).

The Yungas are disappearing at the alarming annual rate of 1.1%, which is a much higher value than that of many tropical forests (FAO 1993). Indeed, 60% has already been lost (Vervoost 1979) due to timber production, land conversion to agriculture (Fig. 5), exotic pine plantation (*Pinus* spp), roads and dams construction, livestock production, human colonization, uncontrolled tourist activities, and gas pipelines construction (Tyler & Tyler



1996, WWF/IUCN 1997). FAO (2001) has indicated that Argentina has been one of the countries with highest deforestation rate during 1990-2000. No management plans have been outlined so far, and the information necessary for a sustainable forest exploitation is not available (Brown et al. 2001).

On the other hand, cloud forests will be affected by the global increase in temperature by mid 21<sup>st</sup> century, bringing about changes in the upper limit of the cloud region, the area on which the vegetation depends for water in the dry season. Climate change will lead to local or total extinction of plant species and the fauna depending on them (FAO 2001) in those isolated mountains whose altitude is not suitable to adjust to changing altitude of clouds.

The climate history and the confinement of the different regions within the Yungas have probably contributed to the present biological composition, which is reflected in the geographic patterns of endemism (Brown 1986). Given the high number of endemic species belonging to different taxa (trees, epiphytes, birds, amphibians, mollusks) it has been suggested that this area was a biodiversity refuge in the past (Brown et al. 2001). This region is known as an endemic bird area (EBA, Stattersfield et al. 1998) of the world with an urgent priority for conservation, with 9 species of restricted distribution: *Amazona tucumana*, *Penelope dabbeni*, *Cypseloides rothschildi*, *Grallaria albigula*, *Elaenia strepera*, *Scytalopus superciliaris*, *Atlapetes citrinellus*, *Cinclus schulzi* and *Eriocnemis glaucopoides* (Stattersfield et al. 1998). Many amphibian species are endemic to the Yungas, some of which are: *Eleutherodactylus discoidales*, *Melanophryniscus rubiventris*, 3 species of the genus *Gastrotheca*, 5 species of the genus *Telmathobius*, 2 species of the genus *Bufo*, and 1 species of the genus *Hyla*. Large mammals also inhabit the Yungas, such as *Panthera onca*, *Leopardus pardalis*, *Tapirus terrestris*, *Lontra longicaudis* and *Hippocamelus antisensis*. Also, the Yungas have the highest regional conservation priority for Argentina (Dinerstein et al. 1995).



Figure 3. Panoramic view of montane forest of Argentina or Yungas.

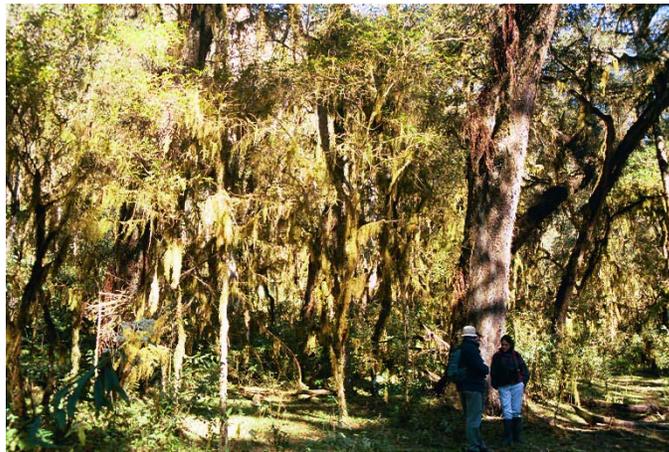


Figure 4. Mature cloud forest in El Nogalar National Reserve (Salta).



Figure 5. Yungas conversion to corn fields.



## **GOAL**

The goal of this project is to evaluate the status, distribution and conservation needs of Alder amazon in the Argentine Yungas so that decision-makers, technicians, and local communities may develop a strategic plan to ensure the conservation of Alder amazon and its habitat in the long term.

## **OBJECTIVES**

The specific objectives of this research were:

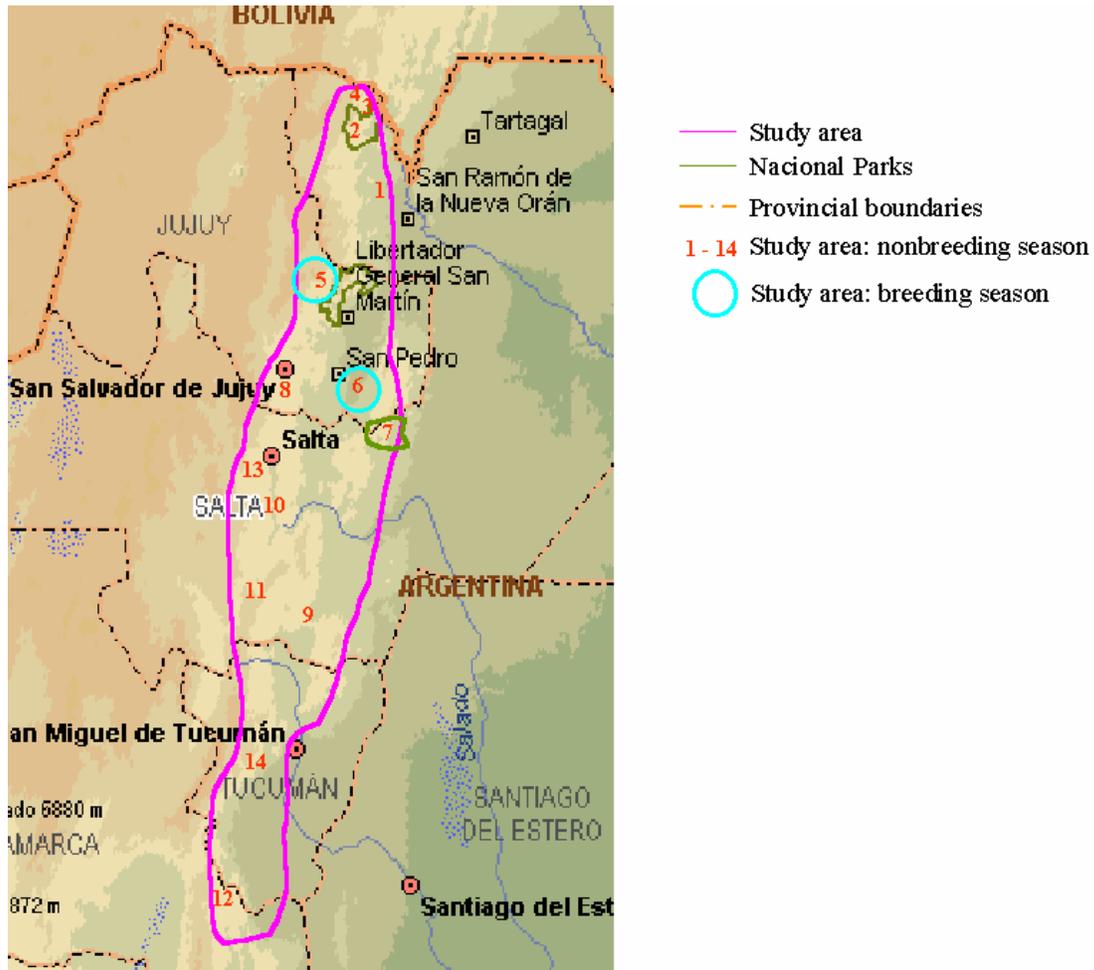
1. To evaluate the status of Alder amazon, specifying population size and distribution in Argentina.
2. To identify nesting and roosting sites of importance for conservation.
3. To determine habitat requirements for nesting and roosting sites.
4. To provide the basis to evaluate future trends.
5. To promote conservation of the Yungas and its species among local people and timber and agriculture industries.



## STUDY AREA

We sampled all throughout the species' distribution area in the Argentine Yungas (Fig. 6). We visited 18 sites in the provinces of Jujuy, Salta, Tucumán and Catamarca during the non-breeding season, and focused on 2 sites in the breeding season (San Francisco and Sierra de Santa Bárbara)

1. **San Andrés** (Fig. 7). This site is located 80 km west of the city of Orán, province of Salta. Land property has been in conflict between a sugar refinery and aboriginal communities in the last years. While important in the past, forest exploitation is low at present, mainly for domestic use or for small agricultural ranches. Both cattle and sheep production is very important. The area has been strongly affected by the construction of the Norandino gas pipeline that crossed it in an East-West direction.
2. **Baritú NP** (Fig. 8). This is a core area within the Yungas Biosphere Reserve, located to the north of the province of Salta. The areas of cloud forest were exploited and are affected by human activities at present, such as small-scale livestock production and agriculture (Fig. 9). Nevertheless, it still has sectors of difficult access with well preserved forests. The structure and physiognomy of the forest near the access road in the border areas of the Park is changing, with a decline of mature trees.
3. **El Arazai** (Fig. 10). This site is near the town Los Toldos, in the north of the province of Salta. It has well preserved cloud forests extending southwards to Baritú NP, but it is affected by livestock production.
4. **El Nogalar Natural Reserve** (Fig. 11). This Reserve is part of the core area of the Yungas Biosphere Reserve. It has stands of mature cloud forests, especially of *Podocarpus* and Walnut trees (*Junglans australis*). Strong effects of overgrazing by cattle can be observed here as well as in the vicinity of Los Toldos valley, where human population is important. Forest exploitation was not significant in this site before its protection. Here we searched for nests in the breeding season, but later it was discarded because of the low density of Alder amazon pairs detected and the steepness of the terrain.



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Figure 6. Study area through Alder amazon's distribution in Argentine Yungas. See text for reference of study area sites.



Figure 7. Panoramic view in the surroundings of San Andrés.



Figure 8. Forest in Baritú National Park.



Figure 9. Corn fields in Baritú National Park.

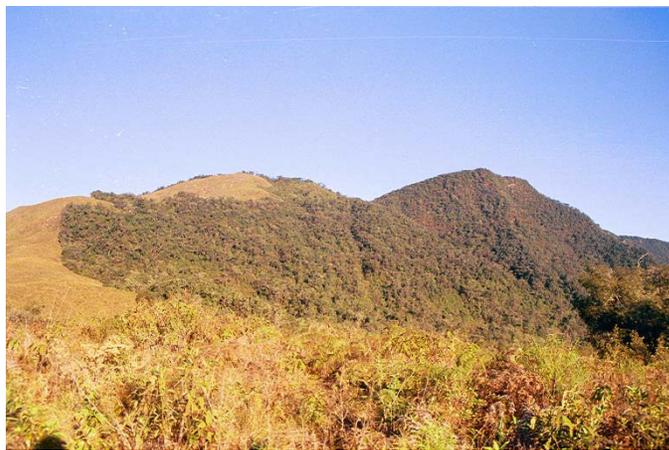


Figure 10. Cloud forest in Arazai.



5. **San Francisco.** This site is located 16 km from Calilegua NP and within the Yungas Biosphere Reserve. The area encompass San Francisco town, which was formerly covered with forest, but now these forests are undergoing a rapid conversion to agriculture, livestock production and human settlements (Fig. 12). Forest exploitation is degrading the remnants of mature forests. Livestock production negatively affects this area in winter months when the animals are taken from the high grasslands to forage in the interior of the forest. We worked near Jordan River, south of the town in the breeding season.
6. **Sierra de Santa Bárbara.** Located to the southeast of the province of Jujuy. This area once belonged to the Finca (translated as ranch) of Celulosa, a factory devoted to the production of paper which used native trees, mainly *Podocarpus*, to obtain paper pulp. Exotic conifers were then planted when native tree numbers declined. Coal production was also significant (Fig. 13). Forest exploitation was intense all throughout the Sierras and several sites have not recovered yet, showing a shrub structure intermingled with tree species of low commercial value. Only a few sectors of more difficult access have not been subject to timber production. Livestock production has been the prevailing activity since forest degradation. The Finca Portal de Piedra (Fig. 14) is located in the eastern sides of the Sierra (Sa.) de Santa Bárbara, near the town of Villamonte. We sampled here in the breeding season, the only means to access the breeding habitat is walking or horse riding, and for these it was critical the support of the owners which we had (Fig. 15). This finca was subject to forest exploitation 50 years ago and once again 12 years ago (Fig. 16). The species extracted were *Podocarpus parlatorei*, cedar (*Cedrella lilloi*), quina (*Myroxylon peruiferum*) and walnut (*Juglans australis*) (Benjamín Pereyra pers.com.). The owners offer ecotourist activities at present.
7. **El Rey NP.** This is the protected area with best preserved mature cloud forests in the Argentine Yungas (Fig. 17), since they have been poorly affected by forest exploitation and are not influenced by livestock production at present. However, in the low and the surrounding areas of the Park there is a negative effect of livestock production, agriculture and forest exploitation, activities that are leading the park to an isolation process.
8. **S.S. de Jujuy - El Carmen.** These are two important urban centers of the province of Jujuy, the former being the capital city. The surrounding areas have been strongly modified by an intensive human use, although some Sierras with secondary forest surround both cities.



Figure 11. Foothill in El Nogalar National Reserve.



Figure 12. Slash and burn agriculture practice near San Francisco.

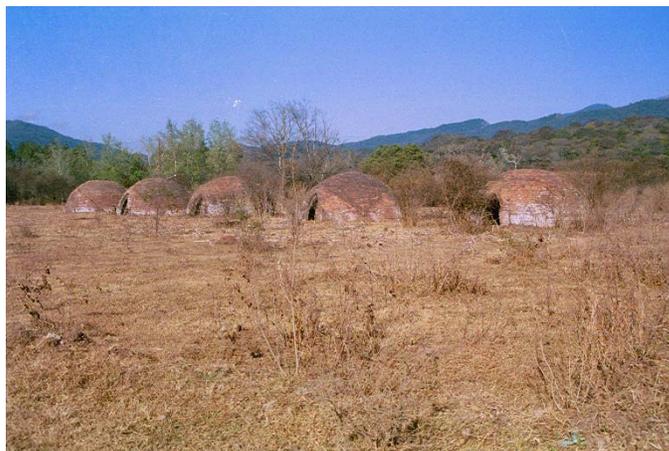


Figure 13. Coal ovens near El Fuerte.



Figure 14. Panoramic view of Finca Portal de Piedra.



Figure 15. Access to cloud forests in Sierra de Santa Bárbara.



Figure 16. Timber track in Sierra de Santa Bárbara.



9. **Sa. La Candelaria.** This is an extended mountain range situated to the south of the province of Salta, which outstretches up to Tucumán. It has some portions of cloud forest on the eastern side, which was exploited for timber. The forest is highly degraded, with intense grazing pressure and is increasingly being replaced by croplands in the low parts (Fig. 18).
10. **Sa. de Metán.** This mountain range, situated to the west of the city of Metán, Salta, has been deeply affected by forest exploitation, livestock production, exotic species plantations and agriculture in the low portions.
11. **Los Sauces River.** It flows down the sides of Sa. de Hualinchay, to the southwest of the province of Salta. The cloud forests, located in the sectors of most difficult access, have been subject to exploitation.
12. **Las Estancias.** Located in the border of the provinces of Tucumán and Catamarca, it has vast Alder forests, although human activities and settlements are important. Low-scale livestock production and agriculture are widespread. Tourism also has great influence in the area.
13. **Quebrada de Escoipe.** This ravine is located in the province of Salta; the sides are steep slopes and in the low and flat portions the forest has been converted to agriculture. Livestock production is the main activity in the forest area.
14. **La Hoyada River, Cochuna, Escaba, Los Sosa River.** These sites of the province of Tucumán hold degraded secondary forests, with high impact of anthropogenic activities, such as forest exploitation, agriculture, livestock production, tourism and fires (Fig. 19).



Figure 17. Mature cloud forest in El Rey National Park.



Figure 18. Sierra de La Candelaria surrounded by agricultural fields.



Figure 19. Montane forest burnt in Los Sosa ravine, Tucumán.



## METHODS

Sampling in the non-breeding season was conducted during July, August, and September 2003. Given that in this season the species performs altitudinal movements towards lower altitudes, we surveyed along the altitudinal gradient (Hoy 1968, Pasquier 1980). We used combined count techniques: we drove (Pitter & Christiansen 1995) and walked through secondary roads, trails or river shores to detect important flying routes, roosting sites or winter refuges and feeding sites (Fig. 20); we used 10-minute point counts (Mardsen 1999) in the flying routes or in sites with good visibility and unlimited-time point counts in the roosting sites (Snyder et al. 1987, Gnam & Burchsted 1991). We performed at least four parrot point counts at the roosting sites detected, either when they entered (sunset) or left the sites (sunrise). We recorded length of time it took the flock to enter and leave the roosting sites, and flock size. Surveys started at sunrise and continued for three hours, and then during the three hours previous to sunset. We used the maximum number of parrots recorded in the site to avoid overestimation (e.g. double counting on successive days), except for those where we recorded roosting sites. The maximum number of parrots was also used in El Rey NP because no counts were performed in the roosting site. We calculated mean and standard error of the number of parrots detected entering or leaving the roosting sites. We estimated absolute and relative frequency for the different flock sizes.

We characterized vegetation structure of the roosting site in San Andrés by recording the number of trees, identifying the dominant species, estimating canopy height and measuring the circumference of trees larger than (>) 31 cm. We chose a center tree at random from which we laid out four quadrants; we measured the distance from the center tree to the four nearest trees in each quadrant. When individuals had two or more stems we considered each stem as a different individual. We mapped the shape of the roosting site with satellite geositional system (GPS). We also measured slope, side aspect and altitude of the site. We estimated tree density, basal area, and roosting site area.

We conducted breeding season surveys during December 2003, January and February 2004. We searched for nests by surveying along timber roads in forest interior. We used both auditory and visual records to detect possible nesting sites in forest interior. Once we detected these sites, we monitored cavities to assess if they were nests by parrots' behaviour cues.

We characterized vegetation structure surrounding nests using 0.1 ha-circular plots whose center tree was the nest tree, and plots with a center tree chosen at random but located at 50 m from the nest tree. In each plot we measured: the circumference of all trees > 31 cm and identified tree species, the distance from the center tree to the 4 nearest trees, canopy cover



(with a densitometer) at 5 points over each of 4 transects perpendicularly arranged, slope, aspect, altitude and geographic coordinates. For each plot we also calculated tree density, diameter at breast height (1.3 m DBH), basal area, mean cover and mean distance between trees; variables were expressed as mean and standard error.

To characterize vegetation at a site level in Sa. de Santa Bárbara and San Francisco we calculated mean density of trees > 10 cm of DBH and mean density of trees > 40 cm of DHB, mean basal area, mean canopy cover and relative frequency for each tree species.

We characterized nests by measuring tree circumference, identifying species, measuring height from ground to the cavity, total tree height, and cavity orientation. When we had access to the nest we measured entrance, depth, and tunnel diameter to the nest chamber.

We gathered all the possible information on the species biology, including aspects such as feeding, behaviour and reproduction.



Figure 20. Survey through trails in Baritú National Park.



## RESULTS AND DISCUSSION

### Population numbers and distribution

We drove 5000 km in the non-breeding season to identify flying routes and activity sites of the Alder amazon. We walked 80 km for 70 hours. We performed 36 10 minute-point counts at sites with good visibility, totaling 6 hours of counts. We recorded a total of 5387 individuals in 12 localities, 7 of which are new localities for the species (Table 1). Two areas concentrate 94% of the individuals recorded (Fig. 21), one extends between El Nogalar (Salta) and San Francisco (Jujuy) and the other from Sa. de Santa Bárbara (Jujuy) to El Rey NP (Salta).

Table 1. Sites surveyed and Alder amazon's records (mean and standard error (S.E.) and maximum number (N°) of parrots recorded in each site) in the nonbreeding season.

	Province	Coordinates	Height	Parrot recorded
Roost				Mean ± S.E.
San Andrés <sup>1</sup>	Salta	S 23° 05' W 64° 52'	1670	649.75 ± 15.59
San Francisco	Jujuy	S 23° 36' W 64° 56'	1400	349.00 ± 33.28
Sa. de Santa Barbara <sup>1</sup>	Jujuy	S 24° 15' W 64° 24'	1380	3635.50 ± 313.66
Site				Maximum N°
Baritú	Salta	S 22° 26' W 64° 44'	1000	121
El Nogalar <sup>1</sup>	Salta	S 22° 16' W 64° 42'	1900	25
El Arazai <sup>1</sup>	Salta	S 22° 21' W 64° 43'	1710	17
S.S. de Jujuy	Jujuy	S 24° 01' W 65° 19'	1375	105
Sa. de Metán <sup>1</sup>	Salta	S 25° 28' W 65° 01'	1010	20
Río Los Sauces <sup>1</sup>	Salta	S 26° 04' W 65° 29'	1000	90
Sa. Candelaria <sup>1</sup>	Salta	S 26° 02' W 64° 49'	1130	21
Escoipe	Salta	S 25° 09' W 65° 37'	1520	0
El Carmen	Jujuy	S 24° 22' W 65° 15'	1190	90
PN El Rey	Salta	S 24° 43' W 64° 38'	850	263
Río La Hoyada	Tucumán	S 26° 44' W 65° 31'	1170	0
Cochuna	Tucumán	S 27° 19' W 65° 55'	1060	0
Escaba	Tucumán	S 27° 47' W 65° 47'	1020	0
Río Los Sosa	Tucumán	S 27° 02' W 65° 40'	1060	0
Las Estancias	Catamarca	S 27° 20' W 65° 46'	1500	0

<sup>1</sup> Sites with new records for Alder amazon.

This first extensive work throughout the distributional area of Alder amazon in Argentina is the first contribution to the knowledge of the species' population levels. Together with previous records published by other authors, this work provides a more precise evaluation of the conservation status of the species. The number of individuals recorded (almost 5500) represents less than the third part of the number of Alder amazons exported between 1985 and 1989 (18,641), what demonstrates that those captures had a strong effect on wild



population levels. The numbers we obtained may contribute as baseline information to evaluate future trends at these sites. The numbers clearly decreased as we moved southwards in the distributional area of the species, i.e., south of Salta, Tucumán and Catamarca, although a few sites that have not been surveyed yet may constitute suitable habitat for Alder amazon.

Nores & Yzurieta (1994) found populations in the area of Las Estancias in the breeding season. We did not detect individuals in winter, which could be explained by seasonal movement patterns. Although we visited El Rey NP at different times of the year (January, July, September) we did not record numbers as great (we recorded an order of magnitude less) as those recorded by Nores & Yzurieta (1994) 28 years before for this site.

The new records for the 7 localities enable us to determine the species' population distribution more precisely. Thus, the records for Sa. de Metán, Sa. de la Candelaria and Los Sauces River confirm the presence of the species in almost all patches of the Yungas situated in isolated mountain ranges, defining a disjunct distribution of populations.

### Roosting sites

We identified 4 roosting sites, but we had access and characterized the roosting sites only in San Andrés (Table 2) and Sa. de Santa Bárbara; the roosting sites in El Rey NP and San Francisco, however, were inaccessible. The trees in San Andrés roosting sites were all Alder (Figs. 22 and 23). Here we found the second largest population of Alder amazon. Local people do not appear to have a conflictive relationship with this species nor do they seem keen on capturing individuals. This area is located within the Yungas Biosphere Reserve, in the most continuous sector of Argentine Yungas, where possibilities of long term conservation are high. Likewise, local communities show great interest in developing a sustainable use of natural resources.

Table 2. Roost characteristics in San Andrés.

Variable	Value
Area (ha)	0.785
DBH (Media $\pm$ S.E.) (cm)	17.95 $\pm$ 0.67
Total density of trees	209
Basal area (m <sup>2</sup> /0.785 ha)	8.5
Distance between trees (Media $\pm$ S.E.) (m)	9.9 $\pm$ 1.32
Canopy height (m)	8
Slope	35°
Aspect	E
Elevation (m)	2000

DBH: diameter at breast height (1.3 m); S.E.: standar error.

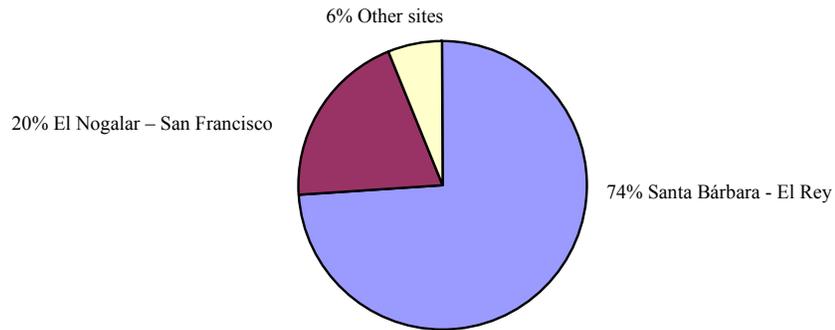


Figure 21. Percentage of parrots recorded in different geographic areas.  
*Other sites*: S.S. de Jujuy, El Carmen, Sierra (Sa.) de Metán, Sa. La Candelaria and Los Sauces river. *El Nogalar –San Francisco*: El Nogalar National Reserve, Baritú National Park (NP), El Arazai, San Andrés and San Francisco. *Santa Bárbara – El Rey*: Sa. de Santa Bárbara and El Rey NP.



Figure 22. Panoramic view of the roost in San Andrés. The arrow indicates the location of patch used as roost (see Fig 23).

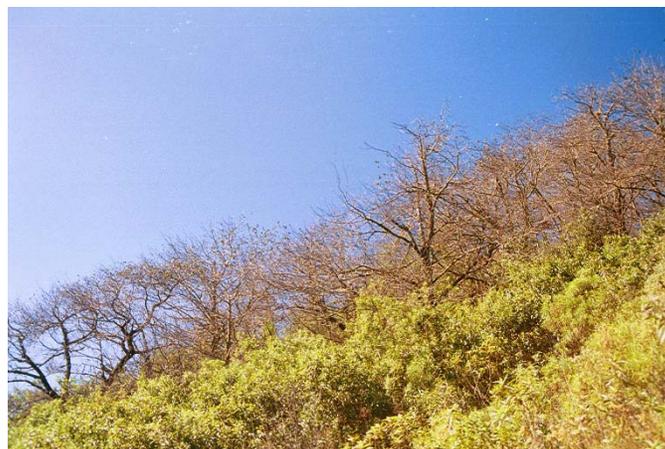


Figure 23. Close-up view of the roost in San Andrés.



Sa. de Santa Bárbara roosting site holds the largest population for the species. It is located in an area forested with *Pinus patula*, an exotic species (Fig. 24). The trees had approximately the same diameter (45 cm) and height (15 m) and were equidistantly arranged in rows. This roosting site, with an area of approximately 2 ha, is located in the vicinity of the town El Fuerte. After Celulosa, the paper factory which owned vast areas of land, went bankrupt, some portions remained in legal dispute by creditors some of which are state banks; this could represent the possibility to create more protected areas or to extend Las Lancitas Provincial Reserve, located at the foothills of Sa. Santa Bárbara. This mountain range extends southwards to the Sa. Cresta de Gallo, the boundary of El Rey NP. This large continuity of Yungas has been poorly studied in its biological aspect, despite the fact that it holds many endemic species. In the lowest portions, with a physiognomy closer to the Chaco, new bird species for Argentina have been recently recorded (Park ranger José Segovia pers. com.). This area has been proposed as a biological corridor between El Rey NP and Calilegua NP.

The roosting site in San Francisco is less than 1 km away from the town, on the west slope, in a deep ravine of a stream that makes the site inaccessible for its steepness. The roosting site of El Rey NP is on the sides of Cerro Chañar, in a forest patch of *Podocarpus* on a steep and inaccessible slope.

We observed large amounts of Alder amazon droppings on the vegetation and on the ground beneath the trees in the roosting sites of San Andrés and Sa. de Santa Bárbara (Fig. 25). In both sites, Alder amazons left rapidly in the morning but took longer time to return in the afternoon (Table 3). The same pattern has been described by Cougill & Mardsen (2004) for *Amazona brasiliensis*. However, an opposite pattern was detected in San Francisco roosting site (Table 3).

Table 3. Leaving (morning) and entering (afternoon) time from roosts by Alder amazon.

Roost	Initial	Final	Duration (minutes)	N° of parrots
San Andrés	07:57	08:10	13	628
	17:03	18:26	83	675
	17:50	18:55	65	618
	18:01	18:47	46	678
San Francisco	08:05	08:45	40	386
	18:50	18:55	5	370
	18:50	18:55	5	250
	18:45	18:55	10	390
Sa. de Santa Bárbara	07:40	08:30	50	3167
	17:26	19:01	95	3023
	18:10	19:19	69	4147
				4205



This is the first description and characterization of a roosting site for Alder amazon. As for other parrot species, the roosting site may constitute a great social and foraging advantage. San Andrés roosting site is situated at a point of excellent visibility near a ridge, like the roosting site that Fjeldsa & Mayer (1996) mentioned as located near the ridge of Campamentito hill, in Chuquisaca, Bolivia. San Andrés roosting site faces the east, receiving the first sunrays very early in the cold winter mornings. All trees were Alders, which shed their leaves at this time of the year, and which have a great number of horizontal branches suitable for Alder amazon to perch. The exotic pines occurring in Sa. de Santa Bárbara roosting site also have a straight, long stem with numerous horizontal branches in their upper part.

Surprisingly, the roosting sites detected are all located near human settlements, except for El Rey NP, although Alder amazon would also use roosting sites near the park rangers' dwellings and the park administration office during July and August (Park ranger Javier Cerutti, pers. com.). This may be explained by the fact that both roosting sites and human settlements are near permanent water streams.

### **Nests sites**

During the breeding season we surveyed nests for 74.5 h in San Francisco and 72.5 h in Sa. de Santa Bárbara. We found 6 Alder amazon nests (Fig. 26), 3 in each site. The nests were found in trees with  $> 0.45$  m of DBH, in 4 different tree species and in a snag (Table 4). The slope ranged between  $10-31^\circ$  (Table 4) although these values could be related to the fact that we searched for nests throughout the most accessible places with gentle slopes, and not to the fact that nests are located in places with slight slopes. Our results indicate that Alder amazon nests in altitudes ranging from 1400 to 1950 m (Table 4), where 2 different plant communities occur: the highest part of the montane forest (Mirtaceae forest) and cloud forest.

Table 5 shows tree species composition for each site and relative frequency for each species found. In both cases, trees of Mirtaceae family are dominant. Nonetheless, forest exploitation may have affected species composition or dominance, which becomes evident by the low representation of cedars (*Cedrella*) and stumps, vestiges of stands of the species. Moreover, *Podocarpus* extraction for pulp production in Sa. de Santa Bárbara was highly important (Fig. 27) (Benjamín Pereyra pers. com.).



Figure 24. Sierra de Santa Bárbara roost in an exotic pine plantation.



Figure 25. Parrot droppings on the ground beneath the trees in the roosting sites of Sierra de Santa Bárbara.



Figure 26. Alder amazon adult in a nest entrance.



Table 4. Nest, nest tree and plot characteristics.

Site	Nest		Tree			Plot							
	Aspect	Height <sup>1</sup>	Species	Diameter <sup>1</sup>	Height <sup>1</sup>	Distance between trees <sup>2</sup>	Canopy cover	Basal area <sup>3</sup>	Tree density	Slope	Azimuth	Elevation <sup>1</sup>	Coordinates
San Francisco													
	NW	17	<i>Blepharocalyx gigantea</i>	0.89	25	5.1±1	95	3.51	25	20°	W	1400	S23°38' W64°56'
	N	9	<i>Phoebe porphyria</i>	0.71	12	6.7±2.5	90	1.12	14	13°	W	1420	S23°38' W64°56'
	E	19	<i>Blepharocalyx gigantea</i>	0.65	30	4.1±0.5	85	2.75	33	22°	W	1540	S23°39' W64°55'
Sierra de Santa Bárbara													
	E	7	<i>Alnus acuminata</i>	0.76	12	7±1	75	1.89	13	13°	E	1950	S24°05' W64°27'
	N	5.5	<i>Ilex argentina</i>	0.47	18	2.7±0.2	80	3.32	63	10°	E	1820	S24°06' W64°27'
	E	16	Snag	1.31	20	2.2±0.9	70	3.21	39	31°	SE	1750	S24°6' W64°26'

<sup>1</sup>: m

<sup>2</sup>: Median ± S.E.

<sup>3</sup>: m<sup>2</sup>/0.1 ha



Table 5. Percentage of tree species in sites where nests were encountered.

Species	San Francisco	Santa Bárbara
<i>Blepharocalyx gigantea</i>	23.33	28.63
<i>Pissonia ambigua</i>	18.33	0
<i>Crinodendron tucumanum</i>	0	16.13
<i>Podocarpus parlatorei</i>	1.67	14.52
<i>Myrcianthes mato</i>	11.25	3.63
<i>Alnus acuminata</i>	0	7.66
<i>Sambucus peruviana</i>	2.50	7.66
<i>Juglans australis</i>	7.50	2.02
<i>Allophyllus edulis</i>	5.83	0
<i>Phoebe porphyria</i>	4.58	0
<i>Ilex argentina</i>	0.83	4.84
<i>Parapiptadenia excelsa</i>	4.17	0
<i>Prunus tucumanensis</i>	0	4.03
<i>Viburnum semeeni</i>	0	4.03
<i>Rhamnus polimorphus</i>	0	3.23
<i>Tabebuia spp.</i>	2.92	0
<i>Rapanea laetevirens</i>	2.50	0
<i>Solanum verbascifolium</i>	2.50	0
<i>Croton densiflorus</i>	2.08	0
<i>Erythrina falcata</i>	2.08	0
<i>Duranta serratifolia</i>	0.42	2.02
<i>Cedrella spp.</i>	0.83	1.61
<i>Bohemeria caudata</i>	1.25	0
<i>Citronella apogon</i>	0.83	0
<i>Fagara coco</i>	0.83	0
<i>Fagara nigrescens</i>	0.83	0
<i>Achatocarpus praecox</i>	0.42	0
<i>Bouganvillea stipitata</i>	0.42	0
<i>Carica quercifolia</i>	0.42	0
<i>Chrysophillum marginatum</i>	0.42	0
<i>Eupatorium saltensis</i>	0.42	0
<i>Nectandra pichurin</i>	0.42	0
<i>Xylosma pubescens</i>	0.42	0

Figure 27. Stumps of *Podocarpus* in Sierra de Santa Bárbara.



When comparing mean tree density between San Francisco and Sa. de Santa Bárbara we observed a greater presence of trees > 40 cm in DBH in the former site, whereas density of trees > 10 cm in DBH was higher in the latter (Table 6), probably because Sa. de Santa Bárbara was more heavily exploited. Snyder et al. (1987) have reported that the minimum tree diameter to bear a nest of Puerto Rican Parrot (*Amazona vittata*) is 40 cm. We did not find nests in trees < 40 cm in DBH, probably because this is the minimum size to bear nests, and as trees age, they are more likely to develop cavities.

Table 6. Environmental and structural variables of the forest in the two sites studied in the breeding season.

Variables	San Francisco	Santa Bárbara
Basal area (m <sup>2</sup> /ha)	29	30
Tree density > 10 cm DBH (n/ha)	304 ± 39	422 ± 70
Tree density > 40cm DBH (n/ha)	65 ± 11	55 ± 8
Snag density (n/ha)	4 ± 2	8 ± 7
Canopy cover (%)	85 ± 3.1	78.3 ± 2.8
Slope range (degrees)	13 - 26	9 - 31
Elevation range (m)	1400 - 1540	1750 - 1950

One of the nests in Sa. de Santa Bárbara was detected in a snag. Although we ignore the importance of this structural feature of the forest for Alder amazon nesting, snags might be significant for the species as it has been reported for other parrot species (Monterrubio-Rico & Enkerlin-Hoeflich 2004).

On February 24, 2004 we had access to a nest in Santa Bárbara (Fig. 28). It was in an individual of Palo yerba (*Illex argentina*), and had an entrance of 60 cm in height x 20 cm in width, with a depth of 50 cm and a tunnel width to the breeding chamber of 15 cm. Four fledglings were in the nest: one was noticeably larger than the rest with a plumage similar to the adults', another fledgling was smaller, with yellow front feathers surrounded by red feathers, and the other two were even smaller (Fig. 29). This difference in size among nestlings suggests an asynchronous hatching pattern, as reported for other species of the genus *Amazona*. By extrapolating data of other species of the genus *Amazona* (Enkerlin-Hoeflich 1995), we estimated that egg laying may have occurred early in December 2003.

It was very difficult to find the nests because parents are very silent when entering the nest during the breeding period, although they seem to vocalize noisily in the vicinity. In the presence of a disturbing factor (e.g., researchers or assistants), adults stay far from the nest



for long periods until the factor disappears, or come near the nest furtively to avoid being seen. This behaviour agrees with descriptions of Enkerlin-Hoeflich (1995) for *Amazona autumnalis*. On one occasion we observed both parents feeding the nestlings (Fig. 30), first one, then the other. The two nestlings of larger size were observed going out to the nest entrance to wait for the adults (Fig. 31) The parents left the nest at sunrise and came back many times during the day apparently, to feed the nestlings, but we cannot define a visit pattern because our records were not enough. Moreover, their behaviour may have been influenced by our presence near the nest.

On February 23, 2004 we had access to 2 nests, also in Sa. de Santa Bárbara. In one of them, we found a feather of Alder amazon and droppings, and we observed 2 fledglings nearby. This nest was situated in an Alder, its entrance was almost round-shaped, 11.8 cm high, 11.4 cm wide and 28 cm deep. The other nest was in a Palo yerba tree but was not in use because it had been cut with an axe at the level of the incubation chamber, presumably for nestling poaching. This suggests that this species is still subject to occasional capture by local people.

In the area of San Francisco, where we encountered Alder amazon nests, a selective forest exploitation of Cedars is being conducted (Fig. 32). The parrots are susceptible to logging disturbances, which may lead them to abandon the nests (Lanning & Shiflett 1983). The importance of this region as a breeding area for the species was previously mentioned (Politi & Rivera 2002).

### **Flock size**

Alder amazons usually gathered in flocks of more than 20 individuals during the non-breeding season (Table 8). However, we observed a tendency to form smaller flocks (less than 20 individuals) in the breeding season (Table 8) although an extraordinary situation of approximately 500 individuals was observed on two occasions (January 20 and February 20) in the area of Sa. de Santa Bárbara roosting site. This flock might be composed of non-breeding individuals, since it was observed when about to sleep after sunset. This cluster would be the remnant of the great roosting site of Sa. de Santa Bárbara, whose size reduces as breeding season



Figure 28. Alder amazon nest in Palo yerba (*Illex argentina*) in El Portal de Piedra.



Figure 29. Nest with the four nestlings.



Figure 30. Adult Alder amazon feeding a nestling.



Figure 31. Nest with two Alder amazon nestlings in the nest entrance. Nestling in front has almost the same feather pattern as the adult, the back smaller nestling has front feather yellow surrounded by red ones.



Figure 32. Timber track in San Francisco.

Tabla 9. Flock size of Alder amazon in nonbreeding and breeding season.

Number of individuals	Nonbreeding season		Breeding season	
	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency
1	3		<sup>a</sup>	
2	17		<sup>a</sup>	
3 – 5	29	0.10	5	0.33
6 – 20	77	0.25	6	0.40
21 – 100	144	0.47	3	0.20
101 – 1500	55	0.18	1	0.07

<sup>a</sup>: These categories were not recorded in this season.



is close and the breeding pairs leave the cluster to nest. Like many other parrot species (Gilardi & Munn 1998, Snyder et al. 1987), Alder amazon would keep its bonds with its pair throughout the year.

### **Biology and Ecology**

We observed the Alder amazon consuming a great variety of food items in both seasons (Fig. 33). Food items consumed in the non-breeding season were mainly seeds (Figs. 34 and 35) which may be a critical resource for the species in this season of low productivity and severe cold weather. We also observed Alder amazons drinking water every day, generally when the flocks left the roosting sites in the morning and before returning in the afternoon. In San Andrés flocks alighted in a waterfall at only 500 m from the roosting site. In El Rey NP flocks clustered on the shore of the La Sala River, in patches of Willows (*Salix humboldtiana*) on the edges of various small channels of this river. Flocks of the Sa. de Santa Bárbara roosting site gathered in a watering place on the edge Santa Rita River, which is situated 5 km south of El Fuerte (Fig. 36). In Baritú NP Alder amazons were observed drinking water from the interior of epiphytic bromeliads, which retain water in the base of the leaves.

### **Elevational movements**

The species performs seasonal movements towards lower altitudes in winter. However, of the 12 sites where we recorded Alder amazons, only El Rey NP is below 1000 m of altitude, the other sites being above that altitude (Table 1). We observed daily altitudinal movements in Baritú NP, San Andrés, El Nogalar and San Francisco, where the flocks descend some hundreds of meters in the first morning hours moving along the river ravines for food, and generally travelling the inverse route in the afternoon hours. Interestingly, the Alder amazon population of Sa. de Santa Bárbara shows an inverse pattern, since the roosting site is at a lower altitude than the sites where they forage, in the eastern sides of the mountain range. Conservation of the feeding sites during the season of resource scarcity, as well as of roosting and breeding sites is crucial for Alder amazon survival. We were not able to determine an altitudinal movement pattern during the reproductive season.

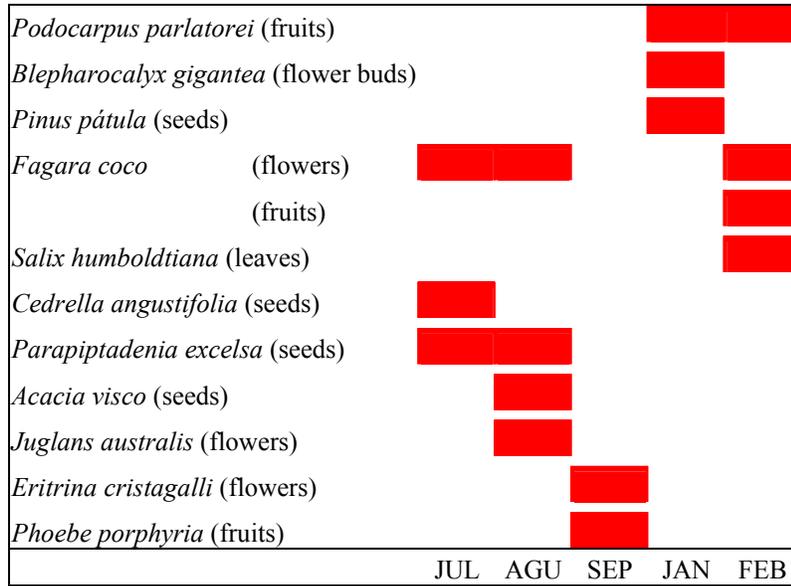


Figure 33. Feeding resources identified as part of Alder amazon’s diet.



Figure 34. Pods of Arca (*Acacia visco*) perforated by Alder amazon to extract seeds.



Figure 35. Cedar fruits (*Cedrella* spp) perforated by Alder amazon to extract seeds.



### Priority areas for conservation

Two areas harbor 94% of Alder amazon individuals recorded, and also hold the last mature cloud forest remnants as well as continuous forested areas (Fig. 37). Long term efforts for the conservation of this endemic species should prioritize these two areas. The area El Nogalar - San Francisco is located within the Yungas Biosphere Reserve, and provides the framework to implement the necessary conservation measures, although its forest has been, and still is, heavily exploited (Fig. 38).

We found 75 % of the individuals of Alder amazon in the area of Sa. de Santa Bárbara - El Rey. However, the area is threatened because it is still affected by intense use and conversion by humans, namely forest exploitation, livestock production, agriculture in low parts (Fig. 39) and replacement of native forest by exotic plantations (Fig. 40). Conservation efforts have been made recently in the area through the creation of Las Lancitas Provincial Reserve, but this area should be extended to the higher parts of Sa. de Santa Bárbara to protect an important part of the breeding habitat of Alder amazon, as well as a good representation of the different plant communities along the elevational gradient, from the lowest areas of chaco serrano to queñoa (*Polylepis sp*) forests and grasslands in the upper portion of the Sierra. The extension of the reserve would ensure the conservation of other bird species of restricted distribution or endemic to the Yungas, which are also found in the Yungas of Sa. de Santa Bárbara, such as *Atlapetes citrinellus*, *Penelope dabbenei*, *Eriocnemis glaucopoides*, *Scytalopus superciliaris* and *Elaenia strepera*. It could also ensure the maintenance of the dynamic function of the biotic communities, such as birds that make seasonal elevational movements in search for resources. This could contribute to structuralizing the biological corridor that connects Sa. de Santa Bárbara with El Rey NP to the south, and Sa. del Centinela to the east.

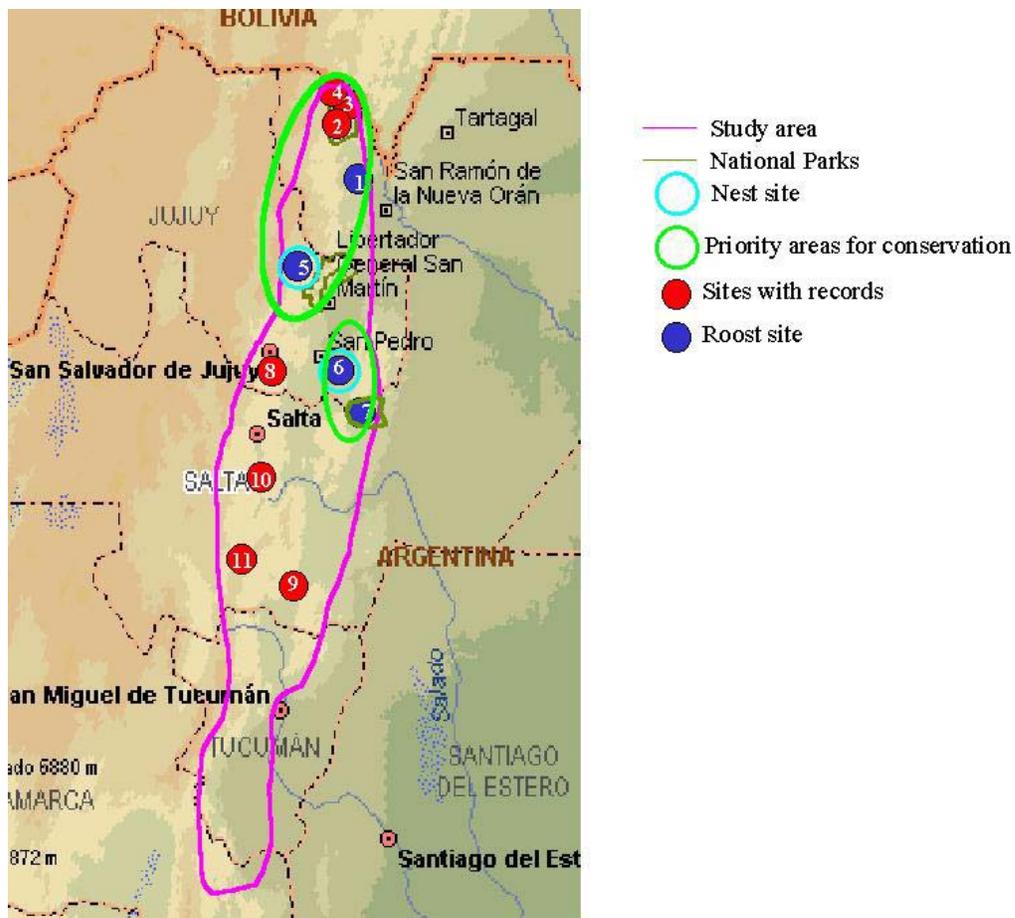
The 3 largest Alder amazon populations detected (at the Sa. de Santa Bárbara, San Andrés and San Francisco sites) are not included in protected areas and are seriously threatened by different activities. San Andrés is located within the borders of the recently created Las Yungas Biosphere Reserve, is out of the core areas and land property is in conflict between local communities and the company San Martín del Tabacal. El Rey NP and Baritú NP bear considerable population numbers of the species, but only the former park holds breeding habitat in good conservation conditions whereas the habitat in the latter is more affected by



human activities. Therefore, it is essential to increase the number of protected areas that provide protection for the most important population of Alder amazon and its habitat.



Figure 36. Alder amazon drinking water in winter.



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Figure 37. Priority areas for the conservation of Alder amazon.



Figure 38. Forest exploitation near Baritú National Park.



Figure 39. Sorghum plantation at Sierra de Santa Bárbara foothills.



Figure 40. Exotic pine plantations in Sierra de Santa Bárbara.



In the vicinity, and even within the cities of S. S. de Jujuy and El Carmen small flocks of approximately 30 individuals are observed using the forest areas near these cities in winter every year. These key sites should be identified and protected, since they provide excellent opportunities to develop conservation education and population awareness campaigns.

### **Categorization of Alder amazon in CITES and IUCN Red List**

As a precautionary measure, we propose that *Amazona tucumana* be maintained in Appendix I of CITES and in the **Vulnerable** category (IUCN 2001), on the basis of the following aspects:

- a) The species meets criterion A2a (direct observation of the reduction in population size of more than 30% over the last three generations), and A2c (decline of the area of occupancy, extent of occurrence and/or quality of habitat) (IUCN 2001). We recorded less than 5800 individuals in this study for Argentina, which represents only a third part of Alder amazons exported during the 1980's. This may indicate that the species has still not been able to recover from these population decline episodes. If the real number of individuals was twice the amount that we detected (11,000), and considering that a high proportion are non-breeding individuals, the number of breeding pairs would be between 2000-3000.
- b) The species meets criterion B2a (estimated area of occupancy of less than 2000 km<sup>2</sup> severely fragmented), B2b(ii) (continuing decline of the area of occupancy), and B2b(iii) (continuing decline in habitat quality) (IUCN 2001). The species distribution is restricted to portions of forest within the narrow strip between Mirtaceae forest and cloud forest, arranged in isolated patches on the slopes of the main mountain ranges, like islands surrounded by other types of habitats. The area of occupation would be less than 2000 km<sup>2</sup>. The breeding habitat of the species has been reduced and the remnants have been deeply degraded -the most important aspects to be considered- by extensive forest exploitation in the mid and late 20<sup>th</sup> century. At present, the effects of livestock production must be added to those of timber production that still continues, altering the regeneration dynamics of the forest.



- c) El Rey NP is the only protected area in Argentina with suitable habitat for the Alder amazon that has not been extensively affected by anthropogenic activities because it was created in 1948.
- d) Alder amazon populations detected to the south of the species distribution range are small, isolated and persist in sites with strong human pressure (south of Salta and Tucumán).
- e) The status of the species in Bolivia is practically ignored; the most important number record is 900 individuals in the Chuquisaca area in 1992 (Fjeldsa & Mayer 1996). According to these authors, the situation of cloud forests in Bolivia is very delicate given the great number of human settlements above the border between the forest and grasslands (contrarily to the situation in Argentina) and the great effect of forest resource use by these local communities.



## MANAGEMENT RECOMMENDATIONS

The following actions are recommended:

- 1- To focus conservation efforts on the two priority areas for the species: the area within Las Yungas Biosphere Reserve, which extends between El Nogalar Reserve (Salta) and San Francisco (Jujuy); and the area extending from Sa. de Santa Bárbara (Jujuy) to El Rey NP (Salta).
- 2- To provide legal protection to remnant forests (e.g., basin-protection forests) and promote the creation of privately-owned Reserves (e.g., through tax exemptions) in the area extending between San Francisco and Calilegua NP, and in Sa. de Santa Bárbara.
- 3- To extend Las Lancitas Provincial Reserve towards the upper part of Sa. de Santa Bárbara to protect the breeding habitat of the species.
- 4- To promote ecotourism in 3 areas (San Andrés, Sa. de Santa Bárbara and San Francisco) as an economic alternative for private land owners and local people.
- 5- To develop forest management and conservation plans together with local communities of these places.
- 6- To forbid commercial forest extraction of native trees until a sustainable plan is implemented to manage the forests at an altitude of above 1400 m in the area between San Francisco and Calilegua NP, in Sa. de Santa Bárbara and in the vicinity of San Andrés.
- 7- To regulate forest exploitation by forbidding cutting and extraction of trees > 40 cm in DBH with cavities, and snags, and implement a tagging system in these trees of importance to Alder amazon and other cavity-dependent fauna (Fig. 41).
- 8- To encourage livestock management activities to allow forest regeneration in the long term and to avoid overgrazing.
- 9- To monitor Alder amazon populations in the roosting sites of Sa. de Santa Bárbara, San Andrés and San Francisco.
- 10- To coordinate regional conservation actions between the Provinces of Jujuy and Salta together with National Parks Administration and Las Yungas Biosphere Reserve Committee.



- 11- To create specific regulations to protect the species at provincial level (Salta and Jujuy).
- 12- To penalize capture and trade of Alder amazons.
- 13- To increase protection controls of forest and fauna in the priority areas for the species.
- 14- To continue with research on the ecology and reproductive biology of the species.
- 15- To study the situation of Alder amazon populations and its habitat in Bolivia to have a wider view of the conservation needs of the species and its status.



Figure 41. Tags indicating trees of importance to wildlife.  
Extracted from Gibbons and Lindenmayer (2002).



## **PUBLIC AWARENESS**

### **Brochure**

We designed a brochure with basic information on the ecology and conservation of Alder amazon and the Yungas (Appendix 1). Part of the information provided was generated during the execution of this project. A total of 3000 high quality brochure with photos were printed in color. The brochure was a highly important tool to inform about the problems of the species and its habitat and it also served as a complementary tool when distributed among participants to lectures on conservation education. They were also distributed among the following institutions: National Parks Administration, Dirección Provincial de Recursos Naturales y Medio Ambiente de la Provincia de Jujuy (Natural Resources and Environmental Agency of the Province of Jujuy), Secretaría de Medio Ambiente y Desarrollo Sostenible de la Provincia de Salta (Environment and Sustainable Development Agency of the province of Salta), Fundación AVES (AVES Foundation) (Jujuy), Grupo Yavi de Investigaciones Científicas (Yavi Group of Scientific Research) (Jujuy), Grupo de Investigaciones en Medio Ambiente (Group of Environmental Research) (Salta), Asociación de Guías de Montaña (Mountain Guides Association) (Jujuy), Comité de Gestión de la Reserva de Biósfera Las Yungas (Committee of Las Yungas Biosphere Reserve), primary and secondary schools of the province of Jujuy and Salta.

### **Talks**

Two talks on the Alder amazon Project were given. One of them was given during the First meeting on Wild Birds of the Province of Jujuy entitled "Getting to know our birds", as part of the World Birds Festival organized by Birdlife International and Aves Argentinas, at the Pasquini López Museum and Cultural Center of the city of S.S. de Jujuy on October 26, 2003 (Appendix 2 and 3). On this occasion we cooperated in the publication of a brochure (Appendix 4) with information on Alder amazon and other species of particular value, which was distributed among the participants. The other talk was given within the series of lectures named "Research in National Parks: looking for understanding to preserve nature and culture" on October 3, 2003 at the America Cultural Center of the city of Salta (Appendix 5).



### **Publications**

An article (Appendix 6) and an interview (Appendix 7) were published in "El Tribuno", the most important newspaper of the province of Jujuy on December 16 and 19, 2003. An article was sent to the magazine "Hechos y Protagonistas" (Facts and Protagonists) for publication.

### **Work in educational institutions**

An education campaign on conservation is being conducted in primary and secondary schools of the city of Jujuy, through talks and activities that focus on the conservation problems of the Alder amazon and the Yungas. Our proposal has already been authorized and will be performed in May at the following educational institutions: Bachillerato Prov. N° 16 Paso de Jama, Bachillerato Prov. N° 19 Claudia Alonso, Colegio El Salvador, Escuela N° 321 Prov. de Buenos Aires, Colegio Jean Piaget y Complejo Educativo José Hernández.

### **WEB Site**

We are devoted to the construction of the Alder amazon Project's web site, which we hope will be ready by June 2004.

### **SCIENTIFIC PUBLICATIONS**

We are elaborating three scientific publications to be sent to Ornitología Neotropical, Cotinga (UK), and Bird Conservation International. Part of the results were presented in a poster at the 4<sup>th</sup> Regional Meeting of Montane Forests, and will be published as an article in the proceedings book.



## ACHIEVEMENTS AND CONSERVATION ACTIONS

1. As Project executors, we have been invited to participate in the Committee of Las Yungas Biosphere Reserve. Given the institutional frame that the Biosphere reserve constitutes, we will be able to propose conservation and management actions for Alder amazon populations and their habitat.
2. The northwestern local office of the National Parks Administration has shown interest in declaring the Project of **Institutional Interest**, which means great support by this Institution in charge of the conservation and management of national protected areas.
3. After learning that the largest Alder amazon population inhabits Sa. de Santa Bárbara, administrators and managers of Las Lancitas Provincial Reserve of Jujuy have decided to include the parrot image in the Reserve logo.
4. We have established contact with important official institutions that manage natural resources (National Parks Administration, Natural Resources and Environmental Agency of the Province of Jujuy, Environment and Sustainable Development Agency of the province of Salta), as well as scientific research institutions (LIEY, University of Mississippi), educational institutions (primary and secondary provincial schools, National University of Jujuy), and non-governmental organizations (Aves Argentinas, AVES Foundation, Yavi Group of Scientific Research, Group of Environmental Research).
5. We entered into an agreement with the National University of Jujuy to incorporate students of the Biology Program of studies in our field trips, who received practical training in sampling techniques and ecology.
6. We are cooperating with National Parks Administration in the organization of a workshop on the conservation of northern Argentine native forests, which will be attended by experts in different taxonomic groups and topics related to sustainable use of forest resources. Specific proposals and plans will result from this workshop to revert the fast rates of degradation and conversion of native forests in the region.
7. Private land owners of Finca Portal de Piedra have committed to preserve an important portion of breeding habitat of the species.
8. We have identified important forest remnants to preserve, with roosting sites, breeding habitat and Alder amazon populations.



9. We will propose to the provincial authorities the implementation of legal regulations to protect the species and its key habitats in the long-term.
10. We have received support from Loro Parque Fundación to continue research on ecology and reproductive biology of the species in 2004-2005.
11. Dr. Francisco Vilella from University of Mississippi has agreed to participate in the project as adviser. Dr. Vilella has vast experience in endangered species, especially the Puerto Rican Parrot.
12. We have generated interest among diverse sectors of the communities where Alder amazon populations inhabit.



## **PROFESSIONAL DEVELOPMENT OF THE PROJECT PARTICIPANTS**

Among the project achievements we must consider the development of the professionals and students that participated:

Lic. Guadalupe Peter: as a botanist, has gained great experience in the recognition of forest species of the Yungas and the knowledge of the ecological processes that occur in such a complex habitat.

M Sc Natalia Politi: she became deeply interested in the effects of forest practices on cavity-dependent bird fauna. At present she is doing her doctorate, and focusing her research on this topic.

Lic. Luis Rivera: he has gained experience and knowledge on the species. He will focus his doctoral thesis work on reproductive biology and demography of Alder amazon; in this way he will gather key information on the species' survival and mortality patterns.

Luciana Abendaño: as a student of Biology, has gathered broad experience from field work; she has learnt sampling techniques, tree and bird species recognition, and a deep view of the problems of the species and its habitat.

José Segovia: a park ranger of the province of Jujuy, has gained experience in the knowledge of Alder amazon and its habitat, as well as in the identification of important areas to preserve and the threatening processes acting on them.

Francisco Cornell: trained in tourism, has learnt about aspects that may provide local people with economic alternatives that would have low negative effect on the forest, especially through ecotourism.

Erica Griet, Luciana Agüero, Luis Calizaya, Rolando Guevara, Roberto Cáceres, Nancy Quiroga, Beatriz Aráoz, and José Rivero, students of Biology from the National University of Jujuy, have participated in field work, learning different aspects of research in conservation and generating possible continuity with this line of work.



## **FUTURE PERSPECTIVES AND PROJECT CONTINUITY**

The support we received from the BP Conservation Programme has allowed us to generate key information to develop conservation actions of Alder amazon and the Yungas. This support has also allowed us to make contacts and gain support from different public institutions, private organizations and individuals that will help us continue with the development of a strategic conservation plan of the species and its habitat in the long term. Accordingly, we have obtained funds from Loro Parque Fundación to continue research on reproductive biology of Alder amazon; also, we are seeking funds to monitor the 4 most important populations detected, evaluate the population status and the species distribution in Bolivia, and investigate possible conflicts with man produced by damage to crops. At the same time, we are seeking support to continue with the conservation education campaign, since it has aroused a great interest in the educational community of the provinces of Salta and Jujuy, other institutions, media and the general public. The number of people involved in the project has increased by the incorporation of professionals and students that have made important contributions; thus, given the formation of a group of people with common interests in favor of conservation, the possibilities of continuing the project are greater.



## ACKNOWLEDGEMENTS

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To Francisco Cornell, for having provided information on parrot records in Jujuy and for his contribution to the recognition of many bird species; to Uriel Colina for contributing with his photography skills and trip entertainer; to Luis Calizaya for his contribution with graphic design to develop the brochure, and the 3 of them for cooperating with the organization and execution of the Conservation Education campaign. We are thankful to José Segovia for his support from Las Lancitas Provincial Reserve and Miguel Cueva from Protected Areas of Salta. To the Dirección Provincial de Recursos Naturales y Medio Ambiente of the Province of Jujuy and to Secretaría de Medio Ambiente y Desarrollo Sostenible of the Province of Salta, for institutional support, and to the National Parks Administration for letting us work in areas of their jurisdiction, as well as all the staff, especially to Mariano Lazaric, Bocha, Ricardo Guerra and Noemí. We also wish to specially thank Aves Argentinas for their institutional support.

Our special gratefulness to the owners of Portal de Piedra –Carlos Cuñado, Silvia y Carlitos, for letting us work in their property and for their kindness, support and shared enthusiasm in favor of conservation of the Yungas. To Benjamín Pereyra and his wife, who made field work possible in Santa Bárbara and who taught us many secrets of the forest. We are also grateful to the teachers from El Fuerte and San Andrés, to all the community of San Andrés and to Ricardo Molina for their kindness and support.

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## APPENDIX 1.

Brochure designed and distributed for the conservation education campaign.

### ¿Cómo se puede colaborar con la conservación del Loro Alisero y la Yunga?

- No compre loros como mascota.
- Si ve que alguien está comercializando a esta especie protegida por la ley haga la denuncia ante las autoridades correspondientes.  
En Salta, dirijase a la Secretaría de Medio Ambiente y Desarrollo Sustentable, Balcarce 388, Tel.: 4214944.  
En Jujuy, dirijase a la Dirección Provincial de Recursos Naturales y Medio Ambiente Belgrano 245, Tel.: 4249533/34.
- Apoye la creación de más áreas protegidas y haga llegar su opinión a los Legisladores Provinciales, Ministros y a los Directores y Secretarios de Medio Ambiente.
- Infórmese y ayude a difundir la problemática del Loro Alisero y las Yungas.

**Mantengamos a los loros silvestres, libres.**

### ¿Qué es el Proyecto Loro Alisero?

El Proyecto Loro Alisero es un proyecto de investigación que está generando conocimiento e información sobre distintos aspectos de la vida de esta especie. Esta información será usada para desarrollar acciones de conservación para lograr un uso más sabio y racional de nuestros recursos naturales incluyendo al Loro Alisero y las Yungas.

En este proyecto participan distintas instituciones, gubernamentales y no gubernamentales, así como personas de distintos sectores: estudiantes, docentes, técnicos y biólogos. Además toda persona interesada en colaborar con la conservación de nuestro patrimonio natural puede acercarse o contactarse con nosotros para participar.

loro\_alisero@yahoo.com

programa de conservación de la bp

Impreso: 2004  
Texto y diseño: Luis Rivera, Natalia Politi y Luis Calizaya

# Conservemos al Loro Alisero y las Yungas



## APPENDIX 1 (CONT.).



### ¿Quién es el Loro Alisero y dónde vive?

El Loro Alisero cuyo nombre científico es *Amazona tucumana* es una especie de loro que vive en las selvas de montaña del Noroeste de Argentina y Sur de Bolivia (llamadas Yungas) (Mapa 1), sólo se encuentra allí y en ningún otro lugar de la tierra. En Argentina, las Yungas se extienden por las Provincias de Salta, Jujuy, Tucumán y Catamarca. Estas selvas albergan la mayor biodiversidad de Argentina, es decir que contienen mayor cantidad y variedad de organismos vivos que otros ambientes de nuestro país. Durante el otoño e invierno el Loro Alisero se desplaza en grandes bandadas a sitios de selva a menor altura en donde puede encontrar alimento. En verano, el Loro Alisero nidifica en huecos en árboles grandes en la zona de los bosques de Pino del Cerro y Aliso, que se encuentran en la parte más alta de las montañas (entre 1700 y 2200 metros de altura).

**El Loro Alisero sólo se encuentra en las Yungas y en ningún otro lugar de la tierra.**



Mapa 1



### ¿Por qué está en problemas el Loro Alisero?

Al igual que otras 90 especies de loros en todo el mundo, el Loro Alisero está amenazado de extinción. Esto es debido a que las Yungas, donde vive, encuentra su alimento y se reproduce, ha sido y continúa siendo intensa e irracionalmente explotado por el hombre ya sea para la extracción de madera o para ser reemplazada por cultivos o pasturas para criar ganado. Otro factor que amenaza a muchas especies de loros es que son capturados para ser vendidos como mascotas, lo que ya hizo desaparecer a varias especies de hermosos loros y guacamayos y ha puesto a muchos más al borde de la extinción. El Loro Alisero fue ampliamente capturado para ser comercializado en los años 80 lo que lo llevó a la delicada situación actual. En muchos lugares los loros son perseguidos y combatidos porque se los considera perjudiciales para los cultivos. El Loro Alisero está protegido por ley por lo tanto su captura, persecución o comercialización están penados.



**La principal amenaza para el Loro Alisero es la destrucción de las Yungas.**



### ¿Por qué es tan importante la conservación del Loro Alisero y de las Yungas?



Es importante porque son parte de nuestro patrimonio natural, pero además las Yungas proveen recursos para miles de personas que dependen de ella como fuente de madera, leña, forraje y provisión de agua. También es una auténtica farmacia de donde se pueden obtener gran cantidad de medicamentos o sustancias con innumerables aplicaciones prácticas. Además no debemos olvidar el valor paisajístico que tienen las Yungas dada su gran potencialidad para el ecoturismo.



### ¿Qué lugares son importantes para el Loro Alisero?

La información obtenida hasta el momento nos permite destacar la importancia de dos zonas claves para esta especie (Mapa 2), las que deben ser conservadas si queremos que el Loro Alisero y otros animales y plantas perduren.



● Áreas Prioritarias de Conservación del Loro Alisero

● Áreas Protegidas

Mapa 2



## APPENDIX 2.

Itinerary of the “Wild Birds of the province of Jujuy” meeting. In red, talk given at the meeting about Alder amazon.



### **Iº Encuentro sobre Aves Silvestres de la Provincia de Jujuy** *“ Conociendo Nuestras Aves ”*

Domingo 26 de Octubre de 2003

Centro Cultural y Museo Pasquini López  
Victor Hugo 45, Barrio Alto La Viña, San Salvador de Jujuy  
Teléfono 0388 4262569

#### Dirigido a

Público en general e interesados en la temática

#### Charlas programadas

- |                  |  |
|------------------|--|
| 14:30 - 14:40 hs | Presentación del Festival Mundial de las Aves  |
| 14:40 - 15:00 hs | ¿Para qué observamos aves silvestres? ( <i>Uriel Colina</i> )  |
| 15:00 - 15:30 hs | Rapaces diurnas y nocturnas ( <i>Luis G. Calizaya</i> )  |
| 15:30 - 16:00 hs | Algunas aves amenazadas del NOA ( <i>Francisco Cornell</i> )   |
| 16:00 - 16:15 hs | Descanso   |
| 16:15 - 16:45 hs | Proyecto Loro Alisero ( <i>Biol. Luis O. Rivera</i> )  |
| 16:45 - 17:45 hs | Proyecto Elé, una estrategia de conservación para el Loro Hablador y su hábitat, involucrando a pobladores rurales y aborígenes del norte argentino ( <i>Biol. Flavio N. Moschione</i> ) |

#### Exposiciones y exhibiciones

- ❖ Fotografías de Aves Silvestres de Jujuy (*Uriel Colina* y *Francisco Kusich*)
- ❖ Filmaciones de Aves Jujeñas (*María Inés Bonansea*)
- ❖ Reserva Provincial Las Lancitas (*Gpques. José Segovia* y *Fredy Burgos*)

#### Otras actividades

- ❖ Concurso de representaciones artísticas de Aves Silvestres Nativas
- ❖ Observación de aves por los senderos del Jardín Botánico-Etnobotánico de Bajo La Viña (Nota: Aunque no es indispensable, recomendamos traer binoculares y guías de aves)
- ❖ Conteo Mundial de Aves Silvestres

#### Agradecemos el auspicio de

- ❖ Dirección Provincial de Medio Ambiente y Recursos Naturales de Jujuy
- ❖ Proyecto Loro Alisero - Programa de Conservación de British Petrol
- ❖ Grupo Yavi de Investigaciones Científicas
- ❖ Asociación de Guías de Turismo de Jujuy - AGTJ
- ❖ Fundación AVES - Ambiente, Vida, Educación y Sustentabilidad

#### Por mayor información

Dirigirse al teléfono: 0388 4260445 ó al correo electrónico: [franciscocornell@yahoo.com.ar](mailto:franciscocornell@yahoo.com.ar)

Este evento se realiza en el marco del Festival Mundial de las Aves  
de BirdLife International y Aves Argentinas / AOP  
Sitio web: [www.avesargentinas.org](http://www.avesargentinas.org)



### APPENDIX 3.

Luis Rivera given a talk about Alder amazon in the meeting “Wild Birds of the province of Jujuy”.





### APPENDIX 4.

Brochure with information on Alder amazon and other species.

**PRINCIPALES AMENAZAS**

- Degradación o destrucción de su hábitat natural (desmontes, tala selectiva, contaminación, urbanización, etc)
- Caza furtiva, captura y/o comercialización de aves silvestres
- Introducción de flora y fauna exótica.

**¿Cómo puedo participar en la conservación de las aves silvestres?**

- Plantando árboles nativos de la zona en el jardín de mi casa
- Evitando sembrar ciertas plantas exóticas que puedan asilvestrarse (ligustros, etc)
- Respetando las áreas naturales aunque no sean reservas
- Evitando comprar aves silvestres ilegales
- Divulgando tus conocimientos sobre conservación
- Brindando tu apoyo a proyectos de conservación



Agachona de collar



**Festival Mundial  
Respecto de las Aves  
de las Aves  
2003**



**"Encuentro sobre Aves Silvestres de la  
Provincia de Jujuy"  
Domingo 26 de Octubre de 2003**

**Agradecemos a:**

- Dir. Prov. de Medio Ambiente
- Fundación A.V.E.S.
- A.D.C.V. de Jujuy
- Grupo Yavi
- **Proyecto Loro Alisero**
- A.G.T.J.

Para mayor información dirigirse a:  
franciscocornell@yahoo.com.ar

Toda e Ilustraciones  
Francisco Cornell © 2003

**LAS  
AVES  
SILVESTRES  
de JUJUY**



**Cómo participar  
en su conservación**

**"Encuentro sobre Aves Silvestres de la  
Provincia de Jujuy"  
Domingo 26 de Octubre de 2003**

**LAS AVES SILVESTRES DE JUJUY**

La Provincia de Jujuy es una de las más ricas en cuanto a la avifauna respecta en nuestro País, con alrededor de 500 especies de aves silvestres que habitan el Chaco, las Yungas, la Prepuna, y la Puna jujeñas enriqueciendo el magnífico paisaje.

Nuestras aves silvestres (no así las aves de granja, canarios y catitas australianas) se encuentran, sin excepción, protegidas por normativas legales que prohíben su caza, captura, comercialización y/o tenencia particular de las mismas. La caza esta controlada y se permite sólo de ciertas especies y en cupos por cazador debiendo tramitar el permiso en la Dirección de Medio Ambiente y Recursos Naturales de Jujuy.

Por eso *suris*, *guaipos*, *patos*, *chumucos*, *águilas*, *halcones*, *palomas perdices*, *catas*, *loros*, *papañayos* o *guacamayos*, *tucanes*, *urracas*, *jilgueros*, *cardenales*, *reinamoras*, *dominós*, *corbatitas*, y *muchos otros*, están protegidos por ley.

**Aves amenazadas**

En la Provincia de Jujuy existen al menos 18 especies de aves que han sido mencionadas como amenazadas de extinción a nivel global, y otras tantas a nivel nacional o regional. Incluso es muy probable que existan muchas más aves en peligro a las cuales no se ha evaluado todavía.

**Algunas aves amenazadas**

**Ñandú (*Rhea americana*)**  
El ñandú es un ave que posee gran habilidad para correr a grandes velocidades. En la Provincia de Jujuy habita la zona de los valles. Prefiere las sabanas y las praderas aunque encuentra refugio en los matorrales y montes de tipo chaqueño. Sin embargo, su hábitat natural ha sido ocupado por zonas agrícolas (previo desmonte) y para asentamientos humanos.

**Suri cordillerano (*Rhea pennata garleppi*)**  
Este pariente cercano del anterior vive en la puna jujeña y su estado poblacional es delicado debido a que es objeto preciado por su carne, sus plumas y sus huevos.

**Cóndor (*Vultur gryphus*)**  
Habita las tierras altas de la Provincia entre los 2000-4000 m donde se guarece y nidifica. Es el principal símbolo de la Cultura Andina. El cóndor sufre también presión por parte del hombre que lo caza por creerlo ladrón del ganado, como también por sus valiosas plumas. Sin embargo, el cóndor es un ave carroñera que muy rara vez se apodera de crías de vacas recién nacidas siendo incapaz de transportarlas por no tener sus patas adaptadas para dicha tarea.



Cóndor

**Mirlo de agua (*Cinclus schulzi*)**  
Es una pequeña ave acuática que habita arroyos torrentosos de montaña. Su alimento lo constituyen pequeñas larvas de insectos y otros animalitos acuáticos que para conseguirlos se zambulle y nada sumergido en las corrientes.

**Guacamayo verde (*Ara militaris boliviana*)**  
Esta increíble ave habitó hasta hace algunas décadas atrás las selvas jujeñas, sin embargo, se encuentra virtualmente extinta en la Provincia. El último registro en Jujuy corresponde a 1932 en Calilegua. El guacamayo verde aun existe en Bolivia.

**Otras aves de especial valor**

**Loro alisero (*Amazona tucumana*)**  
Este vistoso loro esta considerado endémico a nivel global, porque solo habita bosques y selvas de las Yungas del Sur de Bolivia y NO de Argentina. Pasa la mayor parte del año en bosques y pastizales montanos, pero en otoño comienza su migración hacia los valles templados a menor altura donde pasa los meses más frios del invierno. Con frecuencia aparece como un objeto de comercio. El Proyecto Loro Alisero trabaja para la conservación de esta especie.



Loro Alisero



## APPENDIX 5.

Itinerary of the “Research in National Parks” meeting. In red, talk given at the meeting about Alder amazon.

**100 AÑOS - 2003** **100 AÑOS - 2003**

**PROGRAMA DE ACTIVIDADES**  
Lugar: Centro Cultural América, Mitre 23. Salta

**“LA INVESTIGACION EN LOS PARQUES NACIONALES:  
buscando la comprensión para conservar Naturaleza y Cultura”**

**SEPTIEMBRE 26**

20 HS : “Uso del Hábitat del Tapir (*Tapirus terrestris*) en relación al ganado en el PN El Rey y su área de amortiguamiento”.  
EXPOSITOR: **Msc. Silvia Chalukán**

20:40 HS : “El papel de las áreas protegidas en la conservación de los anfibios de las Yungas: realidad y potencialidad”.  
EXPOSITOR: **Dr. Marcos Valra**

21:10 : “Entre las nubes: distribución y conservación de los cactus epífitos de las selvas de montaña de Argentina”.  
EXPOSITOR: **Lic. María Saravia**

**OCTUBRE 3**

20 HS : “Los Parques Nacionales y la conservación de especies endémicas, el caso del loro alisero (*Amazona tucumana*)”.  
EXPOSITOR: **Lic. Luis Rivera**

21 HS : “Caravaneros y pastores. Comentarios acerca de las representaciones rupestres en el Valle Encantado del PN Los Cardones”.  
EXPOSITOR: **Lic. Alvaro Martel**

**OCTUBRE 10**

20 HS : “Diversidad y disturbios antrópicos en el bosque subtropical semiárido: comunidad de leñosas. PN Copo.”  
EXPOSITOR: **Lic. Andrés Tlámo**

20:40 : “Remoción de semillas por fauna nativa en el bosque chaqueño semiárido. PN Copo”  
EXPOSITOR: **Lic. Carlos Truccho**

21:10 HS : “Efectos del uso del bosque sobre las comunidades de artrópodos en el Parque Nacional Copo”.  
EXPOSITOR: **César Bracamonte**

**OCTUBRE 17**

20 HS : “Parque Nacional los Cardones: Distribución espacial, interacciones y reclutamiento del cardón (*Trichocereus pasacana*)”.  
EXPOSITOR: **Dr. Marta de Viana**

21 HS : “Ecología de la comunidad de fétidos en el PN Calleguá”.  
EXPOSITOR: **Dr. Pablo Perovic**

**OCTUBRE 24**

20 HS : “El vuelo del flamenco andino: desplazamiento y uso de hábitat mediante seguimiento satelital”.  
EXPOSITOR: **Dr. Sandra Caziani**

21 HS : “Aves acuáticas en lagunas altoandinas de Catamarca. Proyecto de Parque Nacional, Reserva y Monumentos Naturales Las Parinas”.  
EXPOSITOR: **Lic. Ana Laura Sureda**

**OCTUBRE 31**

20 HS.  
Tema : “Dos décadas de investigación científica y acciones de conservación: una perspectiva estratégica para las yungas”.  
EXPOSITOR: **Dr. Alejandro Brown & Msc. Teresita Lomáscolo.**

**“No realizar investigación científica es carecer de identidad, lo que trae como consecuencia que se viva a expensas de lo que se hace en otras partes, creando condicionamiento y atraso, sinónimos de subdesarrollo”  
(Mazzorra, 1990)**



**100 AÑOS  
1903 - 2003**



El 6 de noviembre de 1903 el Perito Francisco Moreno realizó la donación de tierras que la Nación le suscribiera por su labor en el diferendo limítrofe con Chile, para que fueran conservadas como “parque público”.

El gesto de Moreno determinó que nuestro país contara con el primer Parque Nacional de América Latina.

El día 6 de Noviembre se cumplen 100 años del acto fundacional de nuestros Parques Nacionales.

**La investigación científica es una de las herramientas que sustentan la conservación y el manejo de nuestras Areas Protegidas. Por ello alentamos a investigadores, tesisistas de grado, estudiantes avanzados a realizar investigación en los Parques Nacionales.**

Administración de Parques Nacionales  
[www.parquesnacionales.gov.ar](http://www.parquesnacionales.gov.ar)

Delegación Regional Noroeste. Teléfono: 0387-4310255-4227093.  
E-mail: [dmea@apn.gov.ar](mailto:dmea@apn.gov.ar) / PN El Rey. Tel: 0387-4312683. E-mail: [elrey@apn.gov.ar](mailto:elrey@apn.gov.ar) / PN Calleguá. Tel: 03886-422046. E-mail: [calleguad@apn.gov.ar](mailto:calleguad@apn.gov.ar) / PN Campo de los Alisos Tel: 0386-5421734.  
E-mail: [fozaliso@apn.gov.ar](mailto:fozaliso@apn.gov.ar) / PN Los Cardones Tel: 03868-496005 / PN Baritu 03878-1564335 / PN Copo. Tel: 03841-421210.  
MN Laguna de los Pozuelos. Tel: 03887-491338.

**100 AÑOS - 2003**

**Ciclo de conferencias**

**“LA INVESTIGACION EN LOS PARQUES NACIONALES:  
buscando la comprensión para conservar Naturaleza y Cultura”**



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Setiembre/Octubre 2003

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APPENDIX 6.

Article published in El Tribuno, Jujuy about Alder amazon project and BP Conservation Programme on December 16, 2003.

18 • JUJUY

MARTES 16 DE DICIEMBRE DE 2003 EL TRIBUNO

» Biodiversidad

# Obtuvieron un premio y el financiamiento de proyecto

➔ Investigadores junto a estudiantes lograron un reconocimiento internacional para salvar el loro alisero.

Un grupo de estudiantes y científicos de la Universidad Nacional de Jujuy, Universidad Nacional de Córdoba y Universidad Nacional del Sur obtuvo recientemente un importante premio internacional de conservación para salvar el loro "alisero" de las Yungas. El logro conseguido permitirá el financiamiento de un proyecto de investigación para estudiar la especie, cuyo nombre científico es *Amazona Tucumana*. Los ganadores alcanzaron el premio de bronce del Programa de Conservación British Petrol (BP) y recibirán entrenamiento, apoyo y dinero para poner en marcha el proyecto de investigación.

Luis Rivera, biólogo jujeño, que actualmente realiza un posgrado en la Universidad de Córdoba y líder de la iniciativa, recibió la distinción de manos de Jeffrey Sachs, director del Earth Institute de la Universidad de Columbia, en una ceremonia realizada en Nueva York, Estados Unidos, semanas atrás.

El conseguir el prestigioso premio permitirá que el grupo acceda a las



YUNGAS EL HABITAT PARA NUMEROSAS ESPECIES, ENTRE ELLAS UNA VARIEDAD DE LOROS.

cidos, que ayudarán a la conservación del loro "alisero" y su hábitat, permanentemente amenazada por la explotación forestal indiscriminada. Natalia Politi, una de las integrantes del grupo de investigación, sostuvo que a través del proyecto podrán conseguir información clave

biodiversidad de éstas selvas", afirmó. El trabajo del proyecto de investigación comenzó en el mes de julio y cuenta con el apoyo oficial de la Dirección Provincial de Recursos Naturales y Medio Ambiente de la provincia, la Secretaría de Medio Ambiente y Desarrollo Sostenible de

servación del BP han tenido grandes resultados, desde el descubrimiento de siete especies nuevas para la ciencia en las Yungas de Bolivia, pasando por el redescubrimiento del loro ala roja en las selvas nubladas de Los Andes de Colombia, hasta conducir los primeros re-

## Financiamiento de proyectos

En la presente edición se entregó la mayor suma de dinero en los 18 años de historia del Programa de Conservación del BP. Alrededor de 565 mil pesos fueron otorgados a proyectos enfocados en los problemas más urgentes de conservación.

En ese contexto, fueron entregados en el 2003 un total de treinta y dos premios que van desde los 7.500 pesos hasta los 75 mil pesos, distribuidos en 21 países, cuyos proyectos están dirigidos a la temática y son liderados por estudiantes de grado o expertos en la materia.

Cabe mencionar que el programa está abierto a estudiantes en educación, full o part-time, de cualquier lugar del mundo. El procedimiento de selección del mismo es muy exigente, demandando altos estándares de investigación científica y una completa colaboración del país y de las comunidades locales en todas las iniciativas de conservación que apoya.

partido entre Conservation International y Wildlife Conservation Society, con la colaboración de Birdlife International, Fauna & Flora International y British Petrol, apunta a fortalecer el desenvolvimiento de expertos en conservación y a crear una red global de estudiantes especializados en la temática.

En oportunidad del acto de premiación, Marianne Dunn, manager del programa del British Petrol, se-



## APPENDIX 7.

Interview published in El Tribuno, Jujuy about Alder amazon project and BP Conservation Programme.

JUJUY • 23



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mante grupo se puso manos a la obra, primero para recuperar las capacidades motrices disminuidas de los chicos con la implementación de trabajos manuales. Entre ellos, reciclado de material descartable para la confección de diferentes objetos, luego corte y confección, tejido a máquina, juguetería, talleres de los que también participaban personas sin

### la entrevista

a **LUIS RIVERA**

## Protagonista en la conservación del loro alisero



**Es jujeño y estudió Biología en la Universidad Nacional de Tucumán. Realizó un pos grado obteniendo la maestría sobre "Manejo de Vida Silvestre".**

✪ **OSCAR D'OLIVEIRA**  
✪ *El Tribuno de Jujuy*

Un grupo de estudiantes y científicos de la Universidad Nacional del Sur y Universidad Nacional de Jujuy, obtuvo un premio internacional de conservación que ayudará a financiar un proyecto de investigación para estudiar el Loro Alisero, cuyo nombre científico es *Amazona tucumana*, en las Yungas del Noroeste de Argentina.

#### ● ¿En qué consiste el premio?

- Se trata del premio de Bronce del Programa de Conservación del BP de este año y recibirá entrenamiento, apoyo y dinero. Realizó un posgrado en la Universidad Nacional de Córdoba y como líder del proyecto, me distinguieron con el premio que me entregó Jeffrey Sachs, director del Earth Institute de la Universidad de Columbia en una ceremonia realizada en Nueva York, el martes 24 de junio de 2003.

#### ● ¿Qué significa para ustedes?

- El grupo puede obtener importante información sobre los niveles de las poblaciones de esta especie amenazada, además de generar información novedosa sobre aspectos de su ecología y biología que son prácticamente desconocidos y que ayudarán en la conservación de esta especie y su hábitat que están amenazados por la explotación forestal irracional.

#### ● Su esposa, ¿también es bióloga?

- Sí, graduada en la Universidad del Sur, de Bahía Blanca, Natalia Politi, está cursando el doctorado en la Universidad de Maine EE.UU. con una duración de cuatro años, también integra el grupo de investigación y ha dicho que "al llevar adelante este proyecto tendremos información clave sobre la cual basar

gicas de las Yungas, Aves Argentinas y la Universidad Nacional de Jujuy.

#### ● ¿Tienen otros apoyos?

- Marianne Dunn, manager del Programa de Conservación de BP, afirma que "Trabajaré con los grupos ganadores de este año para ayudarlos a alcanzar los objetivos de sus investigaciones. En estos últimos años, los grupos apoyados por el Programa de Conservación de BP han obtenido grandes resultados, desde el descubrimiento de siete especies nuevas para la ciencia en las Yungas de Bolivia, el redescubrimiento del Loro ala roja, en las selvas nubladas de Los Andes de Colombia, hasta conducir algunos de los primeros relevamientos de tortugas marinas en Madagascar. Ahora, con la adjudicación de los premios de este año y los nuevos socios, el Programa de Conservación BP está entrando en una nueva era. Al unir esfuerzos con Conservation International y Wildlife Conservation Society en colaboración con Bird Life Internacional, Fauna & Flora Internacional y BP, estamos ayudando a fortalecer el desenvolvimiento de expertos en conservación y estamos creando una red global de estudiantes que hemos apoyado a través de este programa único en su tipo. Actualmente, estamos ofreciendo aún más entrenamiento y apoyo para ayudar a los estudiantes a producir proyectos del más alto nivel que se focalicen en los temas más trascendentes de conservación alrededor del mundo".

#### ● ¿Cómo se discriminaron los premios?

- Este año se entregó la mayor suma de dinero, en los 18 de historia del programa de Conservación de BP, \$565.000,00 fueron entregados a proyectos enfocados en algunos de los más trascendentes de conservación