

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES  
OF WILD FAUNA AND FLORA

---

Thirteenth meeting of the Conference of the Parties  
Bangkok (Thailand), 2-14 October 2004

Actions Implemented by Mexico for Conservation and Management of the Lilac-crowned Parrot  
(*Amazona finschi*): considerations for its transfer from Appendix II to Appendix I

Presented by:  
CITES Scientific Authority of Mexico  
Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (Conabio)  
(National Commission for the Knowledge and Use of Biodiversity)

Prepared by:  
Subcommittee for the Conservation, Management and Sustainable Use of Psittacids in Mexico in  
collaboration with the CITES Authorities of Mexico

## INTRODUCTION

Mexico presents this information document to the 13 CoP in order to expand the information available for the amendment proposal Prop.13.13 to transfer *Amazona finschi* from Appendix II to Appendix I of CITES, and strengthen the justification for this transfer.

Over the last 30 years, wild populations of the Lilac-crowned Parrot (*Amazona finschi*) have been heavily impacted by the high demand for trade in national and international markets, from both legal and illegal sources. The species presents a complex natural history, with "K" type reproductive strategies (few young, reproduction below potential, high parental care, delayed sexual maturity of more than 3 years). Added to which, the species is susceptible to the climatic variability of the seasonal tropical forests which it inhabits. Such factors make this species highly vulnerable to additional human pressures of commercial exploitation.

CITES would fulfill the purpose of its mission by listing this species in Appendix I, as indicated in the Convention text Article II on "Fundamental Principals", which states: "Appendix I shall include all species threatened with extinction which are or may be affected by trade. Trade in these species must be subject to particularly strict regulation in order not to further endanger their survival and must only be authorized in exceptional circumstances". For this reason, and in precise fulfillment of requirements expressed in the Resolution Conf. 9.24 on the Criteria for Amendment of Appendices I and II, Annex I: Biological Criteria for the inclusion of species in Appendix I, it is requested that the Conference of the Parties transfer *Amazona finschi* to Appendix I of CITES, this being the most adequate category to ensure the conservation of the species.

## PART I. CONSERVATION STATUS

In 1999, the Mexican government established among its environmental priorities, the conservation and management of Psittacids (Macias Caballero *et al.* 2000). As part of this program, a national study was initiated in 2002: "Evaluation of the Conservation Status of Populations of the Lilac-crowned Parrot (*Amazona finschi*) in Mexico" (Renton & Iñigo Elías 2003), with the support of the CITES Scientific Authority of Mexico (Conabio). The purpose of this study was to determine the

current distribution and relative abundance of the species in Mexico, and the impact that national and international trade has had on wild populations.

The results of this evaluation study support the proposal to transfer *Amazona finschi* (Prop. 13.13) to Appendix I of CITES, indicating that the species has suffered a marked decline owing primarily to the legal and illegal capture for trade which it has been subjected to over the last 30 years, and secondly to destruction of habitat, including nest sites. As a consequence, the species has been extirpated from the various parts of its original distribution. In fact, *A. finschi* is no longer present in some areas which still have potential habitat for the species.

### 1.1. Status of wild populations

It is estimated that there currently exists in Mexico a wild meta-population of no more than 10,000 individuals of *Amazona finschi* (Renton & Iñigo Elías 2003). Added to which, the species has suffered a loss of at least 20% of its habitat along the Pacific slope of Mexico (Ríos Muños 2002). In 1994, there remained only 25,517 km<sup>2</sup> of forests which could provide potential habitat for *A. finschi* (SARH 1994). However, only 5,106 km<sup>2</sup> (20% of the total available) corresponds to optimum habitat for reproduction of the species. Hence, the species presents an observed decline in number of individuals, which may also be inferred or projected by the decline in area and quality of habitat (Criteria *Ai*).

Wild populations of *Amazona finschi* present a high vulnerability to the pressures of trade due to various aspects of the species' biology (Criteria *Av*). *Amazona finschi* presents a low reproductive rate with few young; high parental care; high annual fluctuations in productivity; and delayed sexual maturity of up to 3 years or more (Renton 1998, 2001, 2002, Renton & Salinas-Melgoza 1999, 2002a, 2004). In addition, the species has specific habitat requirements, conducts large seasonal migratory movements, and is susceptible to climatic variability in the seasonal forests it inhabits (Renton 2001, 2002, Renton & Salinas-Melgoza 2002a, 2004, Renton et al. 2001). Finally, the species exhibits the behavior of congregating in large numbers at communal roost sites during the late afternoon, which makes reproductive adults, and juveniles, easy to capture.

In accordance with "Biological Criteria A of Annex 1", of Resolution 9.24, Rev. CoP12, *Amazona finschi* presents a wild meta-population of between 7,000 to 10,000 individuals, which may be considered "small", due to the fact that the species presents a marked decline in number of individuals and quality of habitat (Criteria *Ai*), added to a high intrinsic biological vulnerability as a result of its low reproductive capacity, specific habitat requirements, and regional movements (Criteria *Av*).

### 1.2. Restricted area of distribution

*Amazona finschi* is endemic to the Pacific Coast of Mexico. In 1994, only 25,517 km<sup>2</sup> of forests remained as potential habitat for *A. finschi* in its area of distribution, of which 20% (5,106 km<sup>2</sup>) represents optimum habitat for the species (SARH 1994). In accordance with Res. Conf. 9.24, it is considered that a figure lower than 10,000 km<sup>2</sup> constitutes an adequate definition (not a threshold) of a "restricted area of distribution". In addition, it is stated that discontinuities or separations in the spatial distribution of the species should be considered when defining the area of distribution. Hence, the actual area of distribution for *A. finschi* (considering optimum habitat) is almost half the area given as a reference in Resolution Conf. 9.24 Rev. CoP12 for defining a restricted area of distribution (Criteria *B*).

This is a species with a dispersed and localized population, which presents a complex pattern of altitudinal and longitudinal migration. The extreme seasonality of the dry and semi-humid forests along the Pacific coast where *Amazona finschi* occurs, constrains wild populations of the species to move over large spatial areas to obtain food resources (Renton 2001, Renton et al. 2001). *Amazona finschi* is a highly vulnerable species given its wide spatio-temporal dispersion in search of food resources, and the disjunct and isolated distribution of sub-populations, with a high mortality rate, all in a markedly seasonal habitat (Criteria *Biii*).

During the last 20 years, *Amazona finschi* has suffered a reduction of 29% in its original distribution, currently being extirpated from parts of the Mexican states of Nayarit, Jalisco, Durango, Colima, Michoacán, and Oaxaca, with important population declines in many areas of its original range. *Amazona finschi* has also suffered a loss of 20% of forest cover in its distribution range (Ríos Muñoz 2000). However, of the forests remaining within the species' range, only 20% represents optimum habitat for the species. Hence, *Amazona finschi* presents an observed decline in area of distribution, number of individuals in the wild, and area or quality of habitat (Criteria *Biv*)

In accordance with "Biological Criteria A of Annex 1", of Resolution 9.24, this species presents a restricted distribution (Criteria *B*), with a marked fluctuation in area of distribution (Criteria *Bii*), added to a high vulnerability given its wide spatio-temporal dispersal to obtain resources, and the disjunct distribution of sub-populations (Criteria *Biii*), as well as an observed decline in area of distribution, number of individuals, and area or quality of habitat (Criteria *Biv*).

### 1.3. Population decline

In 1975, Ridgely (1981) reported the species as "uncommon and local", with a fragmented distribution, and that "though populations appear to be stable, this may change [as has occurred] due to the recent demand that exists for the species in the international market". Actually, the wild population of *Amazona finschi* has suffered a dramatic decline throughout its natural range (Criteria *Ci*). This decline has occurred over the last 29 years, principally due to international trade, illegal national and international trade, and national trade.

In addition, *Amazona finschi* presents a decline in area of distribution (Criteria *Cii*), the sub-population of Guerrero and Oaxaca has been biologically reduced or extirpated, even though potential habitat still exists for the species. Likewise, the species has been extirpated from areas of the states of Nayarit, Jalisco, Durango, Colima and Michoacán, and has shown important population declines in many areas of its original range. Actually, the species has disappeared from 37% of the localities where it was historically recorded (Renton & Iñigo Elías 2003). During the period 1993-2000, a total of 33,505 km<sup>2</sup> of forests were lost. Negative tendencies are predicted for the loss of optimum habitat for *Amazona finschi*, estimating a further loss by 2020 of 12 to 20% of remaining forest (Velásquez et al 2002).

Habitat loss presents a threat for the species over the long-term, but the immediate and direct impact on wild populations of the species results from the high levels of exploitation for national and international trade. Over the decade of 1970-1982 in Mexico, 86% of the capture of psittacines was conducted along the Pacific slope, placing *Amazona finschi* among the three species of psittacines most frequently captured in Mexico (Iñigo Elías & Ramos 1991). There is currently a wide-spread and intensive illegal trade in this species, through either nest poaching or the capture of adults with nets, with individuals destined as much for international as national trade, being one of the most frequently confiscated psittacine species. This level of exploitation is not sustainable for the wild population.

In accordance with "Biological Criteria C of Annex 1", of Resolution 9.24, *Amazona finschi* demonstrates a marked decline in number of individuals in the wild, which has been observed as ongoing (Criteria *Ci*), as well as inferred or projected by the decline in area and quality of habitat, and the high levels of exploitation (Criteria *Cii*).

### 1.4. Biological vulnerability

Wild populations of *Amazona finschi* present a high intrinsic biological vulnerability to the pressures of trade. *Amazona finschi* has a low reproductive rate, producing few young, requiring high parental care, with high inter-annual fluctuations in productivity, and delayed sexual maturity of 3 years or more (Renton 2001, 2002, Renton & Salinas-Melgoza 2002a, 2004). This low reproductive rate means that wild populations do not have the capacity to recuperate rapidly from addition pressures such as those currently being experienced. *Amazona finschi* is possibly one of the parrot species with the lowest rates of nest success and reproductive output (Renton & Salinas-Melgoza 2004), making the species highly vulnerable to the human pressures of trade.

In addition, *Amazona finschi* has specific habitat requirements, conducts large seasonal migratory movements, and is susceptible to climatic variability in the seasonal tropical forests which it inhabits (Renton 2001, 2002, Renton y Salinas-Melgoza 2004). The extreme seasonality of the dry and semi-humid forests along the Pacific coast where *Amazona finschi* occurs, constrains wild populations of the species to move over large spatial areas to obtain food resources (Renton 2001, Renton et al. 2001). *Amazona finschi* is a highly vulnerable species given its wide spatio-temporal dispersal in search of food resources, and the disjunct and isolated distribution of sub-populations, with a high mortality rate, all in a markedly seasonal habitat (Criteria *Biii*). Finally, the species congregates in large numbers at communal roost sites during the late afternoon, where hundreds of individuals from the adult reproductive population, as well as juveniles, are easily captured.

Based on the conservation status of wild populations of *Amazona finschi*, its marked population decline, and the reduction of area of distribution and habitat quality, added to the species' high intrinsic biological vulnerability, the cautionary principal in "Biological Criteria D of Annex 1", in Resolution 9.24 of CITES, applies for this species. Failure to protect this species from illegal international trade runs the risk of its continued decline and disappearance in the next few years.

## **PART II. ACTIONS IMPLEMENTED BY MEXICO**

### **2.1. Management measures**

In 1999, the Mexican government established the Project for Recuperation of Priority Species (D.O.F. 1999). This included the Plan for the Conservation, Protection, and Recuperation of Psittacines in Mexico, within which *Amazona finschi* is considered a priority species for the conservation of Psittacids in Mexico (Macias Caballero *et al.* 2000). This Plan establishes strategies for trade regulation, captive breeding and rehabilitation, and awareness raising and environmental education, as well as developing strategies for habitat conservation and the recuperation of wild populations of *Amazona finschi* (Macias Caballero *et al.* 2000).

In Mexico, *Amazona finschi* is currently classified as a *Threatened* (A) species, in accordance with the Official Mexican Regulation NOM-059-ECOL-2001, which establishes the degree of protection required by the country's native wild species, as well as the categories of risk and specifications for their inclusion, exclusion or modification. This means that the species could become endangered in the short- to medium-term, if factors continue operating that exert a negative influence on the species' viability, by causing deterioration or modification of its habitat or directly reducing the size of its populations, and hence requires measures for special protection (D.O.F. 2002).

In 2002, the National Commission for the Knowledge and Use of Biodiversity (Conabio), commissioned the elaboration of "Monographs on the species and sub-species of birds included in the project of the Official Mexican Regulation PROY-NOM-059-ECOL-2000". The objective of this commission was to obtain up-to-date information on the species included in the NOM-059-ECOL-2000, with application of the Risk Evaluation Method (MER) to determine the categories of risk for each species. The MER is founded on scientific standards accepted by specialists of diverse biological groups, and unifies the decision criteria applied to risk categories, permitting the use of information specific for each species to recommend, where necessary, its reclassification in the list.

In the case of *Amazona finschi*, the application of the MER evaluation, recommended its reclassification to the category of 'Endangered', owing to the reduction of its range, its low population abundance, its intrinsic biological vulnerability, and the impact of human activities on wild populations of the species (Renton & Salinas Melgoza 2002b). Therefore, reclassification of *Amazona finschi* is being promoted in the current request for proposals to modify the list of species at risk, Normative Annex II, of the NOM-059-SEMARNAT-2001, emitted by the Secretary for the Environment and Natural Resources (SEMARNAT) through the National Ecology Institute ([http://www.ine.gob.mx/dgoece/con\\_eco/index\\_nom59.html](http://www.ine.gob.mx/dgoece/con_eco/index_nom59.html)).

## 2.2. Inspection and surveillance

Mexico has exerted a great internal effort to control illegal national trade, and recorded at least 52 seizures from 1997 to 2003. During 1995–2003, the Federal Justice Bureau for Environmental Protection (PROFEPA), the Environmental Law Enforcement Authority in Mexico, has implemented inspection operations in various localities and municipalities in 14 Mexican states, resulting in the seizure of 266 live specimens of *Amazona finschi* being offered illegal in the pet trade (Figure 1). This information corroborates that an important market still exists for the species, in which illegal trade persists, hence greater attention needs to be paid and control measures strengthened.

In 2003, a poster of all psittacine species in Mexico was created in collaboration with NGOs, to meet the need for greater capacitation of environmental authorities, particularly environmental inspectors of PROFEPA. The poster was designed as an identification guide so that the environmental authority could easily identify the Mexican species of psittacines. Furthermore, in 2003, four courses were given on the identification and management of psittacines, as part of the capacitation workshops carried out by PROFEPA for its inspectors. A video directed at inspectors of PROFEPA, is currently being developed on the correct feeding and management of psittacines, as well as a pocket identification guide.

The PROFEPA also distributes pamphlets to tourists which explains Mexican environmental legislation, states the species and their products which are prohibited or restricted in trade, and explains the CITES regulations for legal export. These pamphlets contain a section which explains the situation relating to Mexican psittacines.

## 2.3. Monitoring and management of wild populations

In 2002, the CITES Scientific Authority of Mexico (Conabio), commissioned the study "Evaluation of the Conservation Status of Populations of the Lilac-crowned Parrot (*Amazona finschi*) in Mexico" (Renton & Iñigo Elías 2003). The purpose of this study was to determine the current distribution and relative abundance of the species in Mexico, and evaluate the impact that national and international trade has had on its wild populations. The results of this study formed the basis for the elaboration of the proposal for amendment of *Amazona finschi* in the CITES appendices (Prop 13.13 CoP13).

Complementary to the evaluation study, in 2003, the Sectorial Fund for Environmental Research (SEMARNAT-CONACYT) supported the study: 'Ecology and current situation of priority psittacine species along the Mexican Pacific slope'. This study aims to evaluate the current status of wild populations of priority psittacine species along the Mexican Pacific slope, including *Amazona finschi*, determining current distribution, priority areas for species conservation, and establishing the bases for long-term species monitoring, through the production of solid scientific information, and the consolidation of research groups.

In Mexico, Article 87 of the General Law of Ecological Balance and Environmental Protection prohibits the use of wild populations of threatened or endangered species (D.O.F. 1988). The General Wildlife Law sets a series of requirements for the exploitation of species at risk: only authorizing exploitation when priority is given to restoration, conservation, or reintroduction, while for endangered species, individuals must be the product of controlled breeding (D.O.F. 2000).

In 1999, the Technical Consultative Subcommittee for the Protection, Conservation and Recuperation of Psittacids (henceforth Psittacid Subcommittee) was formed, and constitutes 24 active members with expertise in the conservation, research, and management of Mexican psittacines. The Psittacid Subcommittee collaborates closely with the federal government and other organisms or persons interested in promoting, fomenting, and conducting activities for the recuperation and conservation of the 22 psittacine species in Mexico. In particular, the Psittacid Subcommittee functions as a "consultative organ to establish the bases for planning, promoting, and integrating actions and studies related to the recuperation of priority species, as well as their habitat" as established by SEMARNAT. The legal framework and guidelines of the Subcommittees for Priority Species, including

the Psittacid Subcommittee, is currently in force and incorporated in the Diario Oficial de la Federación (1999).

Since 2002, the Psittacid Subcommittee has worked in collaboration with the General Wildlife Direction of the SEMARNAT, in the evaluation of 24 applications for exploitation of wild populations of Mexican psittacines in Wildlife Management Units (UMAs). The UMAs create opportunities for legal, viable sustainable use, which are complementary to other conventional production activities (D.O.F. 2000). It should be highlighted that based on the technical opinions emitted by the Psittacid Subcommittee, the Mexican government has not authorized permits for the exploitation of *Amazona finschi* over the last few years, owing to the current status of wild populations of the species, and the pressures of trade on those populations.

#### 2.4. Habitat conservation

There are Natural Protected Areas which preserve habitat for *Amazona finschi* within its distribution range. The species occurs in the Sierra de Álamos–Arroyo Cuchujaqui Biosphere Reserve in southern Sonora, and in the Biosphere Reserves of Chamela-Cuixmala, and Sierra de Manantlán in Jalisco. In addition, the species is reported in seven Important Bird Areas (AICAs): Álamos-Río Mayo in Sonora; Piélagos in western Durango; Marismas Nacionales in Nayarit; Chamela-Cuixmala, and Presa Cajón de Peñas in Jalisco; and Tancitaro and Coalcomán-Pómaro in Michoacán (Conabio 2002).

The evaluation study on the current distribution and relative abundance of wild populations of *Amazona finschi* (Renton & Iñigo Elías 2003), also identified the terrestrial priority regions with the healthiest wild populations of the species: Río Presidio (RTP-55) in Sinaloa; Sierra Vallejo-Río Ameca (RTP-62), Chamela-Cabo Corrientes (RTP-63), and Manantlan-Volcan de Colima (RTP-64) in Jalisco, as well as Sierra Coalcoman (RTP-115) in Michoacán (Arriaga *et al.* 2000).

### **PART III. ILLEGAL TRADE**

The high demand and economic value of *Amazona finschi* in the international wild bird trade currently promotes the great demand and incites illegal international trade of threatened species in the countries of origin. *Amazona finschi* is the most frequently confiscated Mexican parrot species in the United States (LEMIS 2000 Declarations Standard Report 1995-2000, USFWS), and is among the psittacine species most frequently confiscated along the Mexico-Texas border (Gobbi *et al.* 1996). In Mexico, *Amazona finschi* is the third most frequently confiscated parrot species by PROFEPA. According to the results obtained in the national evaluation study on the current status of *Amazona finschi*, these seizures represent a small fraction of the real number of specimens in illegal trade to the United States (Renton & Iñigo Elías 2003).

The continued extensive illegal trade in birds from Mexico to the United States of America, means that listing of these two species in Appendix I would permit the application of more severe sanctions against traffickers. The penal code currently in force in the United States of America (USSC Nov. 2001: §2Q2.1. Offenses Involving Fish, Wildlife, and Plants), states that penalties may be up to four times greater if the offence involves a species listed in Appendix I of CITES. Inclusion of *Amazona finschi* in Appendix I would help both nations provide more effective actions against illegal trade in this species, thereby reducing the pressures of poaching and capture on wild populations.

It is evident that in the case of *Amazona finschi*, stronger measures are required through international legislation to effectively control the trade that is negatively affecting its wild populations. The inclusion of this species in Appendix I of CITES would support the efforts of legislation, conservation, and management, permitting the application of greater sanctions in illegal international trade, with more attention given to the species by inspectors charged with monitoring compliance with the law.

The Mexican authorities are doing all within their power to correctly implement measures for the protection and conservation of Mexican psittacines. Nevertheless, Mexico is a developing country with a high biodiversity, and thereby has a commitment with citizens of Mexico and the world to

safeguard this natural richness. Unfortunately, the country's economic and institution capacity has not been sufficient to prevent the species' decline. Hence, international assistance is required to support the conservation and management efforts implemented by Mexico.

To date, the inclusion of the species in Appendix II has been insufficient, and its delicate conservation status requires stricter control measures, for which its inclusion in Appendix I is the most appropriate strategy. In addition to the extra efforts which would be employed in Mexico for the control and protection of a species included in Appendix I, importing countries in the areas of greatest demand for the species (United States of America and the European Union) also count on the controls and infrastructure necessary to assist in preventing illegal trade in the species and maintaining a strict control on international trade for effective species conservation.

#### **PART IV. CITED LITERATURE**

- Arriaga, L., J. M. Espinoza, C. Aguilar, E. Martínez, L. Gómez & E. Loa (coordinators). 2000. Regiones terrestres prioritarias de México. Comisión Nacional para el Conocimiento y Uso de la Biodiversidad, México.
- Conabio. 2002. Áreas de Importancia para la Conservación de las Aves (AICAS). (<http://conabioweb.conabio.gob.mx/aicas/doctos/aicas.html>)
- D.O.F. 1988. Ley General del Equilibrio Ecológico y la Protección al Ambiente. Diario Oficial de la Federación, 28 January 1988.
- D.O.F. 1999. Acuerdo por el que se crea el Comité Técnico Consultivo Nacional para la Recuperación de Especies Prioritarias. Diario Oficial de la Federación, Wednesday 23 June 1999.
- D.O.F. 2000. Ley General de Vida Silvestre. Diario Oficial de la Federación, 3 July 2000.
- D.O.F. 2002. NOM-059-ECOL-2001. Protección ambiental - especies nativas de México de flora y fauna silvestres - Categorías de riesgo y especificaciones para su inclusión, exclusión o cambio - Lista de especies en riesgo. Diario Oficial de la Federación, 6 March 2002.
- Gobbi, J., L. Sheeline, D. Rose, & G. de Ferrari. 1996. Parrot smuggling across the Texas-Mexico Border. TRAFFIC-USA & World Wildlife Fund-US.
- Iñigo-Elias, E. E., & M. A. Ramos. 1991. The psittacine trade in Mexico. Pp 380-392 In J. G. Robinson & K. H. Redford (eds). Neotropical Wildlife Use and Conservation. University of Chicago Press, Chicago.
- Macías Caballero, C., E. E. Iñigo Elías, & E. C. Enkerlin Hoeflich. 2000. Proyecto de Recuperación de Especies Prioritarias: Proyecto Nacional para la Conservación, Manejo y Aprovechamiento Sustentable de los Psitácidos de México. Instituto Nacional de Ecología/SEMARNAP, México DF.
- Renton, K. 1998. Reproductive ecology and conservation of the Lilac-crowned Parrot (*Amazona finschi*) in Jalisco, Mexico. Ph.D. Thesis. University of Kent at Canterbury.
- Renton, K. 2001. Lilac-crowned Parrot diet and food resource availability: resource tracking by a parrot seed predator. Condor 103: 62-69
- Renton, K. 2002. Influence of environmental variability on the growth of Lilac-crowned Parrot nestlings. Ibis 144: 331-339.
- Renton, K., & E. E. Iñigo Elias. 2003. AS001: Evaluación del estado actual de las poblaciones de loro corona lila (*Amazona finschi*) en México. Final Report to Conabio, Mexico.
- Renton, K., & A. Salinas-Melgoza. 1999. Nesting behavior of the Lilac-crowned Parrot. Wilson Bulletin 111: 488-493.
- Renton, K., & A. Salinas Melgoza. 2002a. *Amazona finschi* (Sclater 1864) (Loro corona lila). Pp 343-344 In F. A. Noguera, J. H. Vega Rivera, A. N. García Aldrete, & M. Quesada Avendaño (eds.). Historia Natural de Chamela. Instituto de Biología, UNAM, México

- Renton, K., & A. Salinas Melgoza. 2002b. W007: *Amazona finschi*. Fichas sobre las especies y subespecies de Aves incluidas en Proyecto de Norma Oficial Mexicana PROY-NOM-059-ECOL-2000. Conabio, México.
- Renton, K., & A. Salinas Melgoza. 2004. Climatic variability, nest predation, and reproductive output of Lilac-crowned Parrots in tropical dry forest. *Auk* 121: in press.
- Renton, K., A. Salinas Melgoza, & J. H. Vega Rivera. 2001. Migración estacional altitudinal por el loro corona lila y el trogón citrino en el bosque tropical seco: implicaciones para conservación de ecosistemas. Pp 30 In Resúmenes, V Congreso sobre el Estudio y Conservación de las Aves en México, Morelia, Michoacán, 20-23 de Noviembre, 2001. Universidad Michoacana de San Nicolás de Hidalgo/CIPAMEX.
- Ridgely, R. S. 1981. The current distribution and status of mainland Neotropical parrots. Pp 233-384 In R. F. Pasquier (ed). *Conservation of New World Parrots: Proceedings of the ICBP Parrot Working Group Meeting, St Lucia 1980*. Smithsonian Institution Press/ICBP Technical Publication No 1.
- Rios Muñoz, C. A. 2002. Caracterización geográfica de la familia Psittacidae (Aves) utilizando un modelo predictivo. B.Sc Thesis. Facultad de Ciencias UNAM. México, D.F.
- SARH. 1994. Inventario Nacional Forestal Periódico 1992–1994. Memoria Nacional, Subsecretaría Forestal y de Fauna Silvestre, Secretaría de Agricultura y Recursos Hidráulicos, México.
- Velásquez, A., J. F. Mas, & J. L. Palacio. 2002. Análisis del cambio de uso del suelo: Mapas del Análisis del cambio de uso del suelo. Convenio INE-IG (UNAM). (Responsables). Instituto de Geografía, UNAM. ([http://www.ine.gob.mx/dgoece/xid/dgoece/i\\_usv/](http://www.ine.gob.mx/dgoece/xid/dgoece/i_usv/)).

**Figure 1:** Seizures of live specimens of *Amazona finschi* offered in the pet-trade in Mexico (number of specimens above the bars), for which trade is prohibited: 1995-2003 (Source: General Direction for Wildlife Inspection and Surveillance, PROFEPA).

