

Significant Trade in Wildlife:

A Review of Selected Species

in CITES Appendix II

Volume 3: Birds



521

**SIGNIFICANT TRADE IN WILDLIFE:
A REVIEW OF SELECTED SPECIES IN CITES APPENDIX II**

**COMMERCE IMPORTANT DES ESPECES SAUVAGES:
ENQUETE AU SUJET DE CERTAINES ESPECES INSCRITES
A L'ANNEXE II DE LA CITES**

**COMERCIO SIGNIFICATIVO DE VIDA SILVESTRE:
ESTUDIO DE DETERMINADAS ESPECIES
INCLUIDAS EN EL APENDICE II DE CITES**

VOLUME 3: BIRDS

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The views of the authors expressed in this publication do not necessarily reflect those of IUCN or the CITES Secretariat.

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This report was prepared with the assistance of many of the staff at IUCN Conservation Monitoring Centre. The first drafts of the species accounts were written by the following authors:

- Jonathan Barzdo *Alisterus chloropterus*, *Charmosyna pulchella*, *Pseudeos fuscata*, *Trichoglossus goldiei*, *Trichoglossus haematodus*;
- Steven Broad *Rhea americana albescens*, *Alisterus amboinensis*, *Amazona amazonica*, *Amazona autumnalis*, *Aprosmitcus erythropterus*, *Aprosmitcus jonquillaceus*, *Ara ararauna*, *Ara manilata*, *Ara nobilis*, *Ara severa*, *Cacatua alba*, *Cacatua galerita*, *Cacatua goffini*, *Cacatua moluccensis*, *Cacatua sanguinea*, *Cacatua sulphurea*, *Eclectus roratus*, *Eos bornea*, *Eos reticulata*, *Eos squamata*, *Loriculus amabilis*, *Lorius garrulus*, *Probosciger aterrimus*, *Tanygnathus heterurus*, *Trichoglossus euteles*, *Trichoglossus flavoviridis*;
- Tim Inskipp *Poicephalus senegalus*;
- Martin Jenkins *Loriculus galgulus*, *Loriculus pusillus*, *Psittacula derbiana*, *Psittacula longicauda*, *Psittacula roseata*, *Glaucidium cuculoides*;
- Richard Luxmoore *Agapornis fischeri*, *Agapornis personata*, *Amazona aestiva*, *Amazona albifrons*, *Amazona farinosa*, *Amazona finschi*, *Amazona ochrocephala*, *Amazona tucumana*, *Amazona viridigenalis*, *Anodorhynchus hyacinthinus*, *Ara auricollis*, *Ara chloroptera*, *Ara militaris*, *Aratinga acuticaudata*, *Aratinga aurea*, *Aratinga auricapilla*, *Aratinga canicularis*, *Aratinga holochlora*, *Aratinga mitrata*, *Aratinga nana*, *Aratinga solstitialis*, *Aratinga wagleri*, *Aratinga weddellii*, *Bolborhynchus aymara*, *Bolborhynchus orbyngnesius*, *Brotogeris cyanoptera*, *Brotogeris tirica*, *Brotogeris versicolorus*, *Cyanoliseus patagonus*, *Deropteryx accipitrinus*, *Forpus xanthops*, *Nandayus nenday*, *Pionites leucogaster*, *Pionopsitta barrabandi*, *Pionus chalcopterus*, *Pionus maximiliani*, *Pionus sordidus*, *Psittacus erithacus*, *Pyrrhura frontalis*, *Pyrrhura melanura*, *Pyrrhura molinae*.

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INTRODUCTION

Background

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was drawn up in 1973 to control trade in wildlife. It does so by affording to species either of primarily two levels of protection. Those species (or smaller geographical populations) which are threatened with extinction are listed in Appendix I, and are thereby banned from international commerce under most circumstances. Species which are not currently threatened with extinction, but which may become so unless their trade is regulated, are listed in Appendix II. Such species may be traded internationally, but nations must ensure that the levels of trade do not endanger the remaining wild populations. This requirement is expressed formally in the text of the Convention in Article IV, paragraph 2a, which demands that the authorities in exporting countries must have advised that the export of specimens of such a species "will not be detrimental to the survival of that species". Article IV, paragraph 3 indicates that the trade in a species "should be limited in order to maintain the species throughout its range and at a level consistent with its role in the ecosystem in which it occurs and well above the level at which that species might become eligible for inclusion in Appendix I". The authorities in the exporting country must monitor the exports and take steps to limit them whenever they determine it to be necessary.

At the fourth meeting of the Conference of the Parties to CITES, held in 1983 in Gaborone, Botswana, it was recognised that many countries exporting Appendix II wildlife were unable, on their own, to determine whether the levels of trade were having a detrimental effect on the wild populations. Therefore it was recommended (CITES Resolution Conf. 4.7) that the CITES Technical Committee should provide assistance by identifying those Appendix II species which were currently being traded internationally in significant quantities, but for which there was insufficient scientific information on the capacity of the species to withstand such levels of trade to satisfy "the requirements of Article IV, paragraph 3, of the Convention as determined by the range states". It was recommended that once the species of particular concern had been identified, the Technical Committee, together with the range states involved, importing states and organisations experienced in the management of wildlife, "develop and negotiate measures required to ensure that continued trade in these species is within the terms of Article IV, paragraph 3".

Initial discussions of the means by which the Technical Committee could identify those species of particular concern (as recommended by Resolution Conf. 4.7) were based on the premise that a high volume of trade was sufficient evidence alone to justify concern. However, an unpublished report produced in 1984 by WTMU for the CITES Secretariat, on the perception of the issue of high trade-volume, came to the following conclusions:

- The concept of high trade-volume may be approached in two ways: high volume may be considered in absolute terms (i.e. large numbers), or in relative terms (i.e. large numbers in relation to the population and biology of the species).
- Absolute high trade-volume does not alone have any bearing on whether a species is threatened by trade. However, species traded in high absolute numbers are likely to be of considerable ecological significance.
- Relative high trade-volume is of direct relevance to the survival of the species involved, but there is no evidence that this is correlated with absolute high trade-volume. By virtue of their designation on the

Appendices, trade in all CITES-listed species is of concern, and should be monitored.

- Consideration of absolute high trade-volume as a major criterion for selecting species for special attention is thus not only irrelevant in terms of species conservation, but may divert attention from more important cases.

The Technical Committee Working Group on Significant Trade in Appendix II Species produced a paper, based on its meeting in Switzerland in December 1984, which aimed to formulate a procedure or course of action to enable the Technical Committee to fulfil the recommendations of Resolution Conf. 4.7. It was decided that the Group should restrict its attention to fauna, as a Plant Working Group was already in existence. The conclusions of the WTMU report on high trade-volume were endorsed, in that the Working Group agreed that it was not possible to identify those Appendix II taxa of greatest concern on the basis of trade data alone. Information on biological status, population trends and a whole range of other factors was needed in order to assess properly the impact of the trade in those taxa.

A five-part procedure was established as the most appropriate mechanism for implementing Resolution Conf. 4.7. This plan was presented to the fifth meeting of the Conference of the Parties which was held at Buenos Aires, Argentina in 1985 (Doc. 5.26). Steps 1-3 have already been carried out.

Step 1: Production of list "A"

It was acknowledged that, with a very few exceptions, all taxa listed in Appendix II should be able to withstand some degree of exploitation for international trade. The Working Group chose an arbitrary "safe" level of trade for any such taxon of an average of 100 individuals taken from the wild (globally) and entering trade per year. By eliminating all taxa traded at a level within that considered "safe", a list of "potential candidate" taxa could be produced (List "A"). These taxa were defined as those that might be the subject of significant international trade.

List A was prepared by WTMU on the basis of average trade volume over the period 1980-1982. Figures relating to live specimens (excluding those recorded as captive-bred), whole or substantially whole skins, skin flanks/sides, fur/skin plates, shells, trophies and other worked material were included in the analysis. Species never recorded in trade, with the exception of those included in Appendix II as part of a higher taxon or for look-alike reasons, were listed separately in order that consideration could be given to their deletion from the Appendices.

Step 2: Production of list "B"

The Working Group agreed that some taxa might be eliminated from consideration as "significant trade" species on the basis of knowledge readily available to the Group regarding their status. After this process, the remaining taxa constituted list "B", which contained those taxa which could be classified as a "possible problem". In addition, two species (*Probosciger aterrimus* and *Tanygnathus heterurus*) were added to this list under special circumstances where there was evidence of a problem despite only a low volume of trade being recorded.

Step 3: Production of list "C"

The next phase in the procedure was to assess the information available for each of the species in list "B", and to eliminate those species which

were, on the basis of expert knowledge, known not to be a problem. This part of the operation entailed the collection of information on as many aspects of each species as possible and the assessment of the impact of the known trade on the known population. The Working Group agreed that for each species the global situation should be of paramount importance, but that if a species were apparently being affected by trade on a national or regional scale, this fact should be noted in an addendum to the list. List "C" was to be divided into two groups: those species for which current information or knowledge of their biology and/or management indicated that the population was being detrimentally affected by international trade (List 1), and those species for which there is insufficient information available on which to base such a judgement (List 2).

Step 4: Development of remedial measures

The Technical Committee, or a working group of the Technical Committee, was to examine the lists "1" and "2" and establish priorities within each list. For species of high priority in list "1", workshops were to be convened to formulate recommendations for remedial measures. Such measures would include, but not necessarily be limited to: preparing proposals for transfer to Appendix I; establishment of additional management procedures both for wild populations (hunting quotas, seasons, size limits, etc.) and for trade controls (such as export quotas); and listing of taxa for look-alike reasons.

For species of high priority in list "2", projects were to be established to collect information on the biology and management of the species. Where such information indicated the need, the species were to be transferred to list "1".

Step 5: Implementation of remedial measures

The remedial measures identified were to be carried out by the range states involved on the basis of the recommendations arising from the workshops.

This five-step procedure was approved at the Buenos Aires meeting in 1985 and steps 1-3 were implemented by the IUCN Conservation Monitoring Centre. List "C" was prepared in time for the second meeting of the Technical Committee, held in June 1986 in Lausanne, Switzerland. For each species in list "C", a draft report was prepared presenting a summary of all available information, including a detailed analysis of available trade data and information on the population status and other factors thought to be of relevance. On the basis of this information, each species was assigned to the two recommended lists (list 1, problem species; list 2, possible problems). At this stage it was also discovered that some species, originally included in list "C", were probably not being significantly affected by the current levels of trade. These were assigned to a third group (list 3, no problem). The Significant Trade Working Group reviewed the information provided by CMC and the suggested listings, and made a number of recommendations for further action which are outlined below. The Technical Committee also decided that, after further review, the report prepared by CMC should be published.

Further action

The Significant Trade Working Group presented a paper at the second Technical Committee meeting outlining proposals for further action (WGR.TEC. 2.2). The recommendations of this report, some of which were amended at the Technical Committee meeting, are detailed below for the mammal species involved.

List 1 (6 taxa)

Rhea americana albescens The Nomenclature Committee should be asked if this subspecies is to be considered a valid taxon. If it is, the whole species should be listed in Appendix II for look-alike reasons. If not, the whole species should be listed in Appendix II to ensure adequate protection for the Argentinian population.

Amazona aestiva Information supplied on the status of this species indicates that it does not warrant inclusion in List 1 and should be transferred to List 2.

Anodorhynchus hyacinthinus The Group was informed that a proposal to transfer this species to Appendix I was under preparation. It was felt that additional data were needed to either support or oppose this approach. Therefore the Secretariat commissioned a field survey, which was carried out in Brazil, Bolivia and Paraguay in February/March 1987. In the light of the results of that survey the species was transferred to Appendix I at the sixth meeting of the Conference of the Parties which was held in Ottawa, Canada in July 1987.

Cacatua moluccensis The Secretariat should obtain more information, particularly the results of a 1984 survey, and liaise with Indonesia to assess the situation in more detail. (see below under List 2 species)

Eos reticulata The Secretariat should liaise with Indonesia to assess the situation in more detail. (see below under List 2 species)

Probosciger aterrimus Since the main problem identified was that of enforcement, it was recommended that the Secretariat should issue a Notification to the Parties which would include mention of the re-export problem. Such a Notification was issued on 28 November 1986 (No. 417). Subsequently the species was transferred to Appendix I at the sixth meeting of the Conference of the Parties which was held in Ottawa, Canada in July 1987.

List 2 (46 taxa)

The Working Group recommended that the following taxa should receive attention as priority species or groups of species for the collection of information (in order of importance):

1. Southeast Asian parrots (eight species, i.e. *Cacatua alba*, *Cacatua galerita*, *Cacatua goffini*, *Cacatua moluccensis*, *Cacatua sanguinea*, *Cacatua sulphurea*, *Eos reticulata*, and *Lorius garrulus*).
2. South and Central American parrots (seven species, i.e. *Amazona farinosa*, *Amazona ochrocephala*, *Amazona tucumana*, *Ara ararauna*, *Ara chloroptera*, *Ara militaris* and the Appendix I species *Ara macao*).

In addition, the Group made the following special recommendation:

Tanygnathus heterurus: the importing Parties should assist in urgent clarification of identification and taxonomic uncertainties.

List 3 (27 taxa)

It was agreed that available information indicated that these taxa were essentially unaffected by international trade.

METHODS

This report comprises the review of the biological and trade status of species included in list "C". It was carried out by the IUCN Conservation Monitoring Centre under contract to the CITES Secretariat over the period September 1985 to April 1986. As a first step, the CITES Secretariat circulated a request for information to all of the countries in which the species occurred, contacting the CITES Management Authorities in the countries party to CITES and designated wildlife management or equivalent authorities in others. The responses to this request were passed to CMC and are referenced in the following format: Name of country CITES MA, 1987. Comments received from wildlife management authorities in non-Party states are referenced by the name of the government department involved. Information was also solicited from relevant specialists (individuals or agencies), and amongst the major sources were the specialist groups of the IUCN Species Survival Commission. Trade organisations and other interested parties were also approached. A draft report was presented to the 2nd meeting of the CITES Technical Committee in June 1986. This report was discussed and amended by the Committee and review copies were again circulated by the CITES Secretariat to all range states and interested parties, including the Pet Industry Joint Advisory Council. Final modifications to the text and recent trade data were added by CMC during 1987.

In a small number of cases the designation of category of a species at the time of the second Technical Committee meeting has subsequently been amended in the light of new information, in particular the 1985 trade data which have been added to the reports.

Information was collected and collated under the following headings: distribution; population; habitat and ecology; threats to survival; international trade; conservation measures; and captive breeding.

CITES trade data were analysed for the years 1980 to 1985 using the Annual Reports of Parties to the Convention for which the statistics are held on computer at CMC. These data contain records of imports and exports of species listed in the CITES Appendices and of their products. They contain information on the species involved, a description of the type and quantity of product and, in the case of imports, the exporter or re-exporter and primary source country, and, for exports, the destination and original source. For trade between two CITES Parties, each transaction should therefore be reported twice, once by the importer and once by the exporter. As suggested by the Significant Trade Working Group, the analysis was largely restricted to trade in live animals and unworked products, however, in a small number of exceptional cases worked products were included.

Various problems impair the value of CITES trade data in the assessment of levels of world trade. For example: not all trading nations are CITES Parties; not all CITES Parties produce annual reports; and the reports of those that do, vary in quality and regularity of submission. Some countries may report the number of specimens covered by the permits issued, while others report the actual number for which the permit was used. Furthermore exports from a country at the end of one year may arrive in the importing country early in the next and in such cases it is possible that the same transaction may be recorded in the trade tables for both years. These factors and others have to be taken into account when analysing CITES data, but for most species these statistics are the only detailed source of information on their international trade and generally CITES reports are of great value in assessing approximate levels of legal trade, the geographical patterns in such trade and the trends in volume and commodity preference over time.

In most cases the trade data are presented, in the following accounts, in two tables. The first (usually Table 1) details the net imports of importing countries, the total of which gives an estimate of the minimum volume of world trade for each year. The second (usually Table 2) shows the origin, or where no origin was given, the exporter, of specimens in trade. When specimens have been exported to an intermediate country and subsequently re-exported, the minimum net trade was calculated, ensuring that the numbers were only recorded once. The table therefore shows, for each year, the minimum number of items in trade from each country of origin. However, because some items may be re-exported without the country of origin being specified, they may be recorded twice in Table 2. The totals are therefore usually higher than those in Table 1.

INTRODUCTION

Informations générales

La Convention sur le commerce international des espèces de faune et de flore sauvages menacées d'extinction (CITES) a été élaborée, en 1973, pour contrôler le commerce des espèces de faune et de flore sauvages. Elle agit en offrant à ces espèces deux niveaux principaux de protection. Les espèces (ou de plus petites populations géographiquement isolées) qui sont menacées d'extinction sont inscrites à l'Annexe I, ce qui signifie que leur commerce international est interdit dans la plupart des cas. Les espèces qui ne sont pas actuellement menacées d'extinction, mais qui pourraient le devenir si leur commerce n'était pas réglementé, sont inscrites à l'Annexe II. Le commerce international de ces dernières espèces est autorisé, à condition que les pays s'assurent que le volume du commerce ne mette pas en danger la survie des populations sauvages restantes. Cette exigence est formellement énoncée à l'Article IV, paragraphe 2 a, du texte de la Convention, qui prévoit que les autorités des pays d'exportation émettent l'avis que l'exportation de spécimens de ces espèces "ne nuit pas à la survie de l'espèce intéressée". Le paragraphe 3 de l'Article IV indique que le commerce d'une espèce "devrait être limité pour la conserver dans toute son aire de distribution, à un niveau qui soit à la fois conforme à son rôle dans les écosystèmes où elle est présente, et nettement supérieur à celui qui entraînerait l'inscription de cette espèce à l'Annexe I". Les autorités des pays d'exportation doivent surveiller les exportations de façon continue et prendre les mesures qui s'imposent pour les limiter lorsqu'elles le jugent nécessaire.

Lors de la quatrième session de la Conférence des Parties à la CITES, tenue en 1983 à Gaborone, Botswana, il fut reconnu que maints pays exportateurs d'espèces de faune et de flore sauvages figurant à l'Annexe II étaient dans l'incapacité de déterminer par eux-mêmes si les niveaux de commerce avaient un effet nuisible sur les populations sauvages. C'est pourquoi, il fut recommandé (résolution CITES Conf. 4.7) que le Comité technique de la CITES assiste ces pays en identifiant les espèces de l'Annexe II faisant actuellement l'objet d'un commerce international important, mais pour lesquelles, selon l'avis des Etats de l'aire de répartition, les données scientifiques portant sur leur capacité à supporter le commerce à un tel niveau sont insuffisantes au regard des exigences de l'Article IV, paragraphe 3, de la Convention. Il fut recommandé que, une fois les espèces présentant un intérêt particulier identifiées, le Comité technique, en collaboration avec les Etats de l'aire de répartition intéressés, les Etats importateurs et les organisations ayant une expérience en gestion de la faune et de la flore sauvages, "mette au point et négocie les mesures nécessaires pour assurer le maintien du commerce continu de ces espèces dans les limites prévues à l'Article IV, paragraphe 3, de la Convention".

Les discussions initiales sur les moyens à utiliser par le Comité technique pour identifier les espèces représentant un intérêt particulier (selon la recommandation de la résolution Conf. 4.7) ont été fondées sur le principe qu'un volume de commerce important est, à lui seul, une indication suffisante pour justifier un intérêt. Toutefois, un rapport non publié, produit en 1984 par le WTMU pour le Secrétariat CITES et traitant de la manière dont il percevait la question du volume important du commerce, parvenait aux conclusions suivantes:

- Le concept du volume important du commerce peut être abordé de deux manières: un important volume peut être considéré en terme absolu (soit de grandes quantités) ou en terme relatif (soit de grandes quantités par rapport à la population et à la biologie de l'espèce).

- Un important volume de commerce, au sens absolu du terme, n'a pas en soi de rapport avec le fait qu'une espèce soit menacée ou non par le commerce. Toutefois, il est probable que les espèces dont de grandes quantités de spécimens, en terme absolu, sont commercialisés aient une importance écologique considérable.
- Un important volume de commerce, au sens relatif du terme, a un rapport direct avec la survie de l'espèce en question, mais rien ne prouve qu'il y ait corrélation avec un important volume de commerce au sens absolu du terme. Le seul fait que ces espèces soient inscrites aux annexes à la CITES signifie que leur commerce est motif à préoccupation et qu'il devrait faire l'objet d'une surveillance continue.
- Considérer un important volume de commerce au sens absolu du terme comme critère majeur de sélection des espèces nécessitant une attention particulière est donc non seulement hors de propos en ce qui concerne la conservation des espèces mais, qui plus est, risquerait de distraire l'attention de cas plus importants.

Le Groupe de travail du Comité technique sur le commerce important d'espèces de l'Annexe II a élaboré un document, fondé sur sa session tenue en Suisse en décembre 1984, session dont l'objectif était de formuler une procédure ou une ligne de conduite permettant au Comité technique de remplir ses obligations au titre des recommandations de la résolution Conf. 4.7. Il fut décidé que le groupe devait limiter ses discussions à la faune en raison de l'existence d'un Groupe de travail sur les plantes. Les conclusions du rapport du WTMU sur le volume important du commerce furent endossées, en ce sens que le groupe de travail convint qu'il n'était pas possible d'identifier les taxons les plus préoccupants de l'Annexe II sur la base des seules données commerciales. Des informations sur l'état biologique des taxons, sur les tendances de leurs populations et sur toute une série d'autres facteurs sont nécessaires pour évaluer correctement l'effet du commerce sur ces taxons.

Une procédure en cinq étapes, constituant le mécanisme le plus favorable pour l'application de la résolution Conf. 4.7, fut établie. Ce plan d'action fut présenté à la cinquième session de la Conférence des Parties qui eut lieu à Buenos Aires, Argentine, en 1985 (document Doc. 5.26). Les étapes 1 à 3 ont déjà été réalisées.

lère étape: Production de la liste "A"

Il fut reconnu que, à très peu d'exceptions près, on peut raisonnablement assumer que tous les taxons inscrits à l'Annexe II peuvent supporter un certain niveau d'exploitation pour le commerce international. Le groupe de travail choisit un niveau de commerce arbitraire et "sûr" pour tout taxon, soit en moyenne 100 individus prélevés dans la nature (globalement) et entrant dans le commerce chaque année. En éliminant tous les taxons dont le commerce était considéré d'un niveau "sûr", une liste de taxons "candidats potentiels" (liste "A") put alors être établie. Ces taxons sont définis comme étant ceux qui peuvent faire l'objet d'un commerce international important.

La liste A a été établie par le WTMU sur la base d'un volume de commerce moyen couvrant la période 1980-1982. Les chiffres ayant trait aux spécimens vivants (sauf les spécimens enregistrés en tant qu'élevés en captivité), aux peaux entières ou substantiellement entières, aux flancs, aux nappes de peaux, aux carapaces, aux trophées et à d'autres articles travaillés ont été inclus dans cette analyse. Les espèces qui n'ont jamais été enregistrées dans le commerce, à l'exception de celles inscrites à l'Annexe II en tant que partie d'un taxon supérieur ou pour des raisons de

ressemblance, ont été énumérées séparément en vue de leur éventuelle élimination des annexes.

2e étape: Production de la liste "B"

Le groupe de travail convint que, sur la base des connaissances dont le groupe pouvait disposer aisément au sujet de leur état, certains taxons ne devaient plus être considérés comme des espèces faisant l'objet d'un "commerce important". Après cette opération, les taxons restants ont constitué la liste "B", laquelle contient les taxons qui pourraient être classés en tant que "problème possible". En outre, deux espèces (*Probosciger aterrimus* et *Tanygnathus heterurus*) ont été ajoutées à la liste dans des circonstances particulières: la mise en évidence d'un problème en dépit de l'enregistrement d'un faible volume de commerce.

3e étape: Production de la liste "C"

L'étape suivante de la procédure revenait à évaluer les informations disponibles pour chacune des espèces de la liste "B" et à éliminer les espèces qui, sur la base des connaissances des experts, ne posent pas de problème. Cette partie de l'opération fut réalisée en rassemblant des informations sur autant d'aspects que possible relatifs à chaque espèce et en évaluant l'effet du commerce connu sur la population connue. Le groupe de travail convint que, pour chaque espèce, la situation globale devait avoir une importance primordiale, mais que, si une espèce était apparemment affectée par le commerce à l'échelle nationale ou régionale, ce fait devait figurer dans un supplément à la liste. Les espèces de la liste "C" devaient être réparties en deux groupes: d'une part les espèces pour lesquelles les informations courantes ou la connaissance de leur biologie et/ou de leur gestion montrent que la population est affectée par le commerce international (liste 1) et d'autre part les espèces pour lesquelles les informations disponibles sont insuffisantes pour servir de base à un tel jugement (liste 2).

4e étape: Mise au point de mesures correctives

Le Comité technique, ou un groupe de travail du Comité technique, devait examiner les listes "1" et "2" annotées et établir des priorités au sein de chaque liste. Pour les espèces de la liste "1" ayant un ordre de priorité élevé, des sessions de travail devaient être convoquées dans le but de recommander des mesures correctives. De telles mesures devaient comprendre, sans nécessairement s'y limiter: la préparation de propositions de transferts de taxons à l'Annexe I; la mise en place de procédures de gestion supplémentaires, aussi bien en faveur des populations sauvages (telles que quotas de chasse, saisons de chasse, tailles limites des spécimens, etc.) qu'en ce qui concerne les contrôles du commerce (telles que quotas à l'exportation), et l'inscription de taxons pour des raisons de ressemblance.

Pour les espèces de la liste "2" ayant un ordre de priorité élevé, des projets devaient être élaborés afin de collecter des informations sur leur biologie et leur gestion. Lorsque ces informations en montraient la nécessité, l'espèce devait être transférée à la liste "1".

5e étape: Mise en vigueur des mesures correctives

Les mesures de correction identifiées devaient être prises par les Etats de l'aire de répartition intéressés, sur la base des recommandations formulées lors des sessions de travail.

Cette procédure en cinq étapes a été approuvée à la session de Buenos Aires, en 1985, et les étapes 1 à 3 ont été réalisées par le Centre UICN de surveillance continue de la conservation de la nature (CMC). La Liste "C" a été élaborée pour la deuxième session du Comité technique, qui s'est tenue à Lausanne, Suisse, en juin 1986. Pour chaque espèce de la liste "C", un projet de rapport a été rédigé, lequel présentait un résumé de toutes les informations disponibles, dont une analyse détaillée des données sur le commerce et des informations sur l'état des populations et d'autres facteurs jugés pertinents. Sur la base de ces informations, chaque espèce a été assignée à l'une des deux listes recommandées (liste 1, espèces à problèmes; liste 2, problèmes possibles). A ce stade, on a également découvert que certaines des espèces figurant à l'origine sur la liste "C" n'étaient probablement pas affectées de manière significative par les niveaux actuels de commerce. Celles-ci furent assignées à un troisième groupe (liste 3, sans problème). Le Groupe de travail sur le commerce important d'espèces de l'Annexe II a étudié les informations fournies par le CMC, ainsi que les listes proposées, et a fait un certain nombre de recommandations quant aux activités futures qui sont décrites ci-après. Le Comité technique a également décidé que, après un nouvel examen, le rapport élaboré par le CMC devait être publié.

Activités futures

Le Groupe de travail sur le commerce important d'espèces de l'Annexe II a présenté un document à la deuxième session du Comité technique, document qui ébauchait des projets d'activités futures (WGR. TEC. 2.2). Les recommandations de ce rapport, dont certaines ont été modifiées lors de la session du Comité technique, sont présentées ci-dessous de façon détaillée en ce qui concerne les reptiles.

Liste 1 (6 taxons)

Rhea americana albescens Il conviendrait de demander au Comité de la nomenclature si cette sous-espèce est considérée comme un taxon valide. Si tel est le cas, l'ensemble de l'espèce devrait être inscrit à l'Annexe II pour des raisons de ressemblance. Dans le cas contraire, l'ensemble de l'espèce devrait être inscrit à l'Annexe II afin que la population argentine soit assurée d'une protection adéquate.

Amazona aestiva Les informations fournies quant à l'état de cette espèce montrent qu'elle ne devrait pas être incluse à la liste 1 et qu'elle devrait être transférée à la liste 2.

Anodorhynchus hyacinthinus Le groupe fut informé qu'une proposition de transfert de cette espèce à l'Annexe I était en cours d'élaboration. On estimait qu'afin de pouvoir appuyer cette procédure ou s'y opposer, il était nécessaire d'avoir davantage de données. Le Secrétariat a alors organisé la mise sur pied d'une étude de terrain, qui fut réalisée au Brésil, en Bolivie et au Paraguay, en février-mars 1987. Au vu des résultats de cette étude, l'espèce a été transférée à l'Annexe I lors de la sixième session de la Conférence des Parties tenue à Ottawa, Canada, en juillet 1987.

Cacatua moluccensis Le Secrétariat devrait obtenir davantage d'informations, notamment les résultats d'une enquête effectuée en 1984, et être en contact avec l'Indonésie afin d'évaluer la situation de manière plus approfondie. (Voir les espèces de la liste 2 ci-dessous).

Eos reticulata Le Secrétariat devrait être en contact avec l'Indonésie afin d'évaluer la situation de manière plus approfondie. (Voir les espèces de la liste 2 ci-dessous).

Probosciger aterrimus Le principal problème mis en évidence touchant à la mise en vigueur de la législation, il fut recommandé au Secrétariat d'émettre une notification aux Parties qui mentionnerait le problème des réexportations. Une notification à cet effet (no. 417) fut émise le 28 novembre 1986. Par la suite, l'espèce a été transférée à l'Annexe I, à l'occasion de la sixième session de la Conférence des Parties tenue à Ottawa, Canada, en juillet 1987.

Liste 2 (46 taxons)

Le groupe de travail recommande que l'on porte attention aux taxons suivants en tant qu'espèces ou groupes d'espèces prioritaires quant à la collecte d'informations (par ordre d'importance):

1. Perroquets de l'Asie du Sud-Est (Huit espèces, soit *Cacatua alba*, *Cacatua galerita*, *Cacatua goffini*, *Cacatua moluccensis*, *Cacatua sanguinea*, *Cacatua sulphurea*, *Eos reticulata* et *Lorius garrulus*).
2. Perroquets d'Amérique centrale et du Sud (sept espèces, soit *Amazona farinosa*, *Amazona ochrocephala*, *Amazona tucumana*, *Ara ararauna*, *Ara chloroptera*, *Ara militaris* et l'espèce de l'Annexe I *Ara macao*).

En outre, le groupe formule la recommandation spéciale suivante:

Tanygnathus heterurus: les Parties importatrices devraient contribuer à la clarification urgente des incertitudes qui existent en matière d'identification et de taxonomie.

List 3 (27 taxons)

Le groupe admet que les informations disponibles montrent que ces taxons, pour l'essentiel, ne sont pas le commerce international.

METHODES

Ce rapport comprend l'examen de l'état biologique des espèces contenues dans la liste "C" et des données commerciales les concernant. Il a été élaboré par le Centre UICN de surveillance continue de la conservation de la nature, sur la base d'un contrat avec le Secrétariat CITES, au cours de la période septembre 1985 - avril 1986. Dans un premier temps, le Secrétariat CITES a adressé, par l'intermédiaire des organes de gestion CITES des pays Parties à la Convention ou des autorités responsables de la gestion de la faune ou équivalentes des pays non-Parties, une demande d'informations à tous les pays dans lesquels se rencontrent les espèces de la liste "C". Les réponses reçues ont été envoyées au CMC et il y est fait référence en indiquant le nom de l'organe de gestion de la Partie CITES en 1987. Il est fait référence aux commentaires reçus des autorités responsables de la gestion de la faune dans les pays non-Parties en indiquant le nom du département gouvernemental intéressé. Des informations ont également été demandées aux spécialistes (personnes ou organisations), et les groupes de spécialistes de la Commission de sauvegarde des espèces de l'UICN en furent parmi les principales sources. Il a également été fait appel aux organisations du commerce et autres parties intéressées. Un projet de rapport a été présenté à la deuxième session du Comité technique CITES en juin 1986. Ce rapport a été examiné et amendé par le comité et des versions révisées ont été transmises par le Secrétariat CITES aux Etats de l'aire de répartition et aux personnes intéressées, dont le Pet Industry Joint Advisory Council. Les modifications finales et des données commerciales récentes ont été ajoutées au texte, par le CMC, au cours de 1987.

Dans un petit nombre de cas, la catégorie à laquelle une espèce avait été attribuée lors de la deuxième session du Comité technique a, par la suite, été modifiée sur la base des nouvelles informations reçues, en particulier les données commerciales de 1985 qui ont été ajoutées aux rapports.

Les informations ont été recueillies et rassemblées sous les titres suivants: répartition; population; habitat et écologie; menaces pour la survie; commerce international; mesures de conservation; et élevage en captivité.

Les données commerciales CITES ont été analysées pour les années 1980 à 1985, sur la base des rapports annuels des Parties à la Convention dont les statistiques sont conservées sur ordinateur par le CMC. Ces données comprennent les importations et exportations des espèces figurant aux annexes à la CITES et de leurs produits. Elles contiennent des informations sur les espèces en question, une description du type de produits et leur quantité et, dans le cas des importations, mentionnent l'exportateur ou le ré-exportateur et le premier pays producteur, et, pour les exportations, la destination et la source d'origine. En ce qui concerne le commerce entre deux pays Parties à la CITES, chaque transaction devrait donc être enregistrée deux fois, une fois par l'importateur et une fois par l'exportateur. Ainsi que le Groupe de travail sur le commerce important d'espèces de l'Annexe II l'avait suggéré, l'analyse a été, pour l'essentiel, limitée au commerce des animaux vivants et aux produits non-travaillés; cependant, dans un petit nombre de cas exceptionnels, des produits travaillés y ont été inclus.

Divers problèmes réduisent la valeur des données commerciales CITES pour l'évaluation des niveaux du commerce mondial. Par exemple: toutes les nations faisant du commerce ne sont pas Parties à la CITES; les Parties à la CITES ne présentent pas toutes des rapports annuels; et les rapports présentés sont de qualité variable et le sont de manière irrégulière. Certains pays font état du nombre de spécimens couverts par les permis émis, tandis que d'autres indiquent le nombre réel de spécimens pour lesquels le permis a été utilisé. En outre, il se peut que des exportations ayant lieu en fin d'année arrivent dans le pays d'importation au début de l'année suivante et, dans de tels cas, il est possible que la même transaction soit enregistrée dans les tableaux relatifs aux données commerciales des deux années. Il s'agit de tenir compte de ces facteurs, et d'autres encore, dans l'analyse des données de la CITES; toutefois, pour la plupart des espèces, ces statistiques constituent l'unique source d'informations détaillées sur leur commerce international, et les rapports CITES sont en général précieux pour évaluer les niveaux approximatifs du commerce légal, la répartition géographique des voies empruntées par le commerce international et les tendances, au cours des ans, en ce qui concerne le volume du commerce et l'évolution des préférences à l'égard des produits.

Dans la plupart des cas, les données commerciales sont présentées en deux tableaux dans les exposés qui suivent. Le premier (le tableau 1 en règle générale) énumère, dans le détail, les importations nettes des pays d'importation dont le total donne une estimation du volume minimal du commerce mondial pour chaque année. Le second (le tableau 2 en règle générale) indique l'origine ou, dans les cas où l'origine n'a pas été indiquée, l'exportateur des spécimens commercialisés. Lorsque des spécimens ont été exportés vers un pays intermédiaire et réexportés par la suite, le commerce net minimal est alors calculé, en s'assurant que les quantités n'ont été enregistrées qu'une fois. Ainsi, le tableau indique, pour chaque année, la quantité minimale d'articles commercialisés à partir de chaque pays d'origine. Cependant, certains articles pouvant être réexportés sans que le pays d'origine ne soit spécifié, il est possible qu'ils soient enregistrés deux fois dans le tableau 2. C'est la raison pour laquelle les totaux du tableau 2 sont généralement plus élevés que ceux du tableau 1.

INTRODUCCION

Antecedentes

La Convención Sobre el Comercio Internacional de Especies Amenazadas de Fauna y Flora Silvestres (CITES) fue elaborada en 1973 con el objeto de controlar el comercio de vida silvestre. Ese control se efectúa asignando a las especies dos niveles de protección. Aquellas especies (o pequeñas poblaciones geográficas) que se encuentran amenazadas de extinción están incluidas en el Apéndice I de la Convención, y su comercio internacional está prohibido, excepto bajo circunstancias excepcionales. Aquellas especies que no corren peligro de extinción, pero que podrían estar amenazadas si su comercio no estuviera reglamentado, se incluyen en el Apéndice II de la Convención. Dichas especies pueden comercializarse a nivel internacional, pero las naciones concernidas deben asegurarse de que los niveles de comercio no representan una amenaza para las poblaciones silvestres remanentes. Este requisito se explica formalmente en el texto de la Convención, Artículo IV, párrafo 2 a), que exige que las autoridades de los países exportadores informen que la exportación de especímenes de esas especies "no perjudicará la supervivencia de esa especie". En el artículo IV, párrafo 3 se indica que el comercio de esas especies "debe limitarse a fin de conservarlas, a través de su hábitat, en un nivel consistente con su papel en los ecosistemas donde se hallan y en un nivel suficientemente superior a aquel en el cual esa especie sería susceptible de inclusión en el Apéndice I". Las autoridades del país exportador deberán controlar las exportaciones y tomar medidas para limitarlas cuando así se lo estime conveniente.

Durante la cuarta reunión de la Conferencia de las Partes en CITES, realizada en 1983 en Gaborone, Botswana, se reconoció que varios países exportadores de especímenes de especies del Apéndice II no podían determinar por sí solos si los niveles de comercio perjudicaban a las poblaciones silvestres. Por lo tanto, se recomendó (por medio de la Resolución Conf. 4.7) "que el Comité Técnico de CITES identifique las especies del Apéndice II que son objeto de un comercio internacional considerable, para las cuales la información científica disponible sobre su capacidad de resistir a tales niveles de comercio resulta insuficiente como para satisfacer los requisitos estipulados en el Artículo IV, párrafo 3 de la Convención, según la opinión de los Estados involucrados en el área de distribución". Se recomendó que, una vez que determinadas especies se hayan identificado, el Comité Técnico, junto con los Estados involucrados en el área de distribución, los Estados importadores y las organizaciones que poseen una experiencia en el manejo de la fauna y de la flora, "elaboren y negocien las medidas necesarias para asegurar el mantenimiento del comercio continuo de esas especies dentro de los límites previstos en el Artículo IV, párrafo 3, de la Convención".

Las discusiones iniciales respecto a la manera como el Comité Técnico identificaría las especies en cuestión (tal como se recomienda en la Resolución Conf. 4.7) se basaron en la premisa de que un importante volumen de comercio era evidencia suficiente como para justificar la preocupación. Sin embargo, un informe no publicado, que fue realizado en 1984 por el WTMU para la Secretaría CITES, llegó a las siguientes conclusiones en lo que se refiere a la percepción del problema relativo al volumen significativo de comercio:

- El concepto de volumen significativo de comercio puede definirse de dos maneras: el volumen significativo puede considerarse en términos absolutos (i.e. grandes cantidades), o en términos relativos (i.e. grandes cantidades en relación con la población y la biología de la especie).
- El volumen de comercio significativo absoluto no implica por sí solo que la especie esté amenazada por el comercio. Sin embargo, la

comercialización de especies en números significativos absolutos puede tener un significado ecológico importante.

- El volumen de comercio significativo relativo está directamente ligado a la supervivencia de las especies concernidas, pero no se tienen pruebas de que esto este correlacionado con el volumen de comercio significativo absoluto. Debido a su designación en los Apéndices, todo comercio de especies incluidas en CITES es de interés y debe ser vigilado.
- Considerar el volumen de comercio significativo absoluto como un criterio para la selección de especies para un cuidado especial es por lo tanto no solamente irrelevante en términos de conservación de especies, sino que puede también distraer la atención de casos más importantes.

El Grupo de Trabajo del Comité Técnico sobre el comercio significativo de especies del Apéndice II produjo un documento, basado en su reunión en Suiza en Diciembre de 1984, cuyo fin consistía en formular un procedimiento o una línea de conducta que permitiera al TEC cumplir con sus obligaciones en virtud de la Resolución Conf. 4.7. Se decidió que el Grupo debía limitar sus discusiones a la fauna, pues ya existía un Grupo de Trabajo para las plantas. Las conclusiones del informe del WTMU sobre gran volumen de comercio fueron endosados, y el Grupo convino en que no era posible identificar los taxa del Apéndice II más preocupantes basándose solamente en los datos comerciales. Para evaluar correctamente el efecto del comercio sobre esos taxa era necesario poseer información sobre la situación biológica, sobre la tendencia de las poblaciones y sobre toda una serie de otros factores.

Se convino en un procedimiento de cinco etapas como siendo el mecanismo más favorable para la aplicación de la Resolución Conf. 4.7. Dicho procedimiento se presentó durante la quinta reunión de la Conferencia de las Partes que se realizó en Buenos Aires, Argentina, en 1985 (Doc. 5.26). Los pasos 1-3 ya han sido realizados.

1ra. etapa: Elaboración de una lista "A"

Se reconoció que, salvo algunas pocas excepciones, se puede razonablemente asumir que un taxón incluido en el Apéndice II puede soportar un cierto grado de explotación con fines de comercio internacional. El Grupo decidió fijar una cantidad a un nivel "prudente" de comercio para todos los taxa del Apéndice II, en término medio, de menos de 100 ejemplares por año de un taxón incluido en el Apéndice II, que son obtenidos de la naturaleza (en forma global) y que entran anualmente en el comercio.

De esta forma, eliminando todos los taxa que no están concernidos por el comercio internacional o que están concernidos solamente a un nivel mínimo, se obtiene una lista de taxa "candidatos potenciales" (lista "A"). Esos taxa se definen como aquellos que podrán ser objeto de un comercio internacional significativo.

La lista "A" fue preparada por la WTMU, utilizando el promedio de las estadísticas comerciales CITES ofrecidas por las Partes en el período 1980-1982. Se incluyeron en el análisis los datos relativos a los especímenes vivos (excluyendo los especímenes criados en cautividad), las pieles enteras o substancialmente enteras, las pieles de los flancos/lados, las napas de pieles, los caparazones, los trofeos y otros artículos no trabajados, etc. Las especies que nunca fueron registradas en el comercio, con excepción de aquellas incluidas en el Apéndice II como parte de un taxón superior o por razones de semejanza, fueron listadas separadamente para que se tomara en consideración su retiro de los Apéndices.

2da. etapa: Elaboración de una lista "B"

El Grupo convino que algunos taxa pueden ser eliminados de las especies de "comercio significativo" basándose en los conocimientos disponibles relativos a su situación. Luego de este proceso, los taxa remanentes constituyen la lista "B", formada por aquellos taxa con "posibles problemas". Además, agregaron a esa lista dos especies (*Probosciger aterrimus* y *Tanygnathus heterurus*) bajo circunstancias especiales, donde se pone en evidencia un problema, a pesar del bajo volumen de comercio registrado.

3ra. etapa: Elaboración de una lista "C"

El paso siguiente del procedimiento consistía en evaluar las informaciones disponibles para cada una de las especies de la lista "B" y en eliminar las especies que, sobre la base de la opinión de expertos, no presentan problemas. Esta parte de la operación significaba tener que reunir el máximo de información posible con respecto a cada especie y evaluar el efecto del comercio conocido sobre la población conocida. El Grupo convino que, para cada especie, se debía acordar una importancia primordial a la situación global, pero que, si una especie estaba aparentemente afectada por un comercio a nivel nacional o regional, se lo debía mencionar en un suplemento anexo a la lista. Las especies de la lista "C" deberían distribuirse en dos grupos: en primer lugar las especies para las cuales las informaciones corrientes o el conocimiento de su biología y/o de su manejo demuestran que la población se halla afectada por la explotación debido al comercio internacional (Lista 1) ; y, en segundo lugar, las especies para las cuales las informaciones disponibles o los conocimientos son insuficientes como para servir de base a un juicio de ese tipo (Lista 2).

4ta. etapa: Elaboración de medidas correctivas

El TEC, o un grupo de trabajo del TEC constituido a ese efecto, debía examinar las listas "1" y "2", y establecer prioridades dentro de cada lista. Para las especies o grupos de especies de la lista "1" de gran prioridad, se debían convocar sesiones de trabajo con el objeto de recomendar medidas correctivas. Las medidas correctivas examinadas debían comprender, sin necesariamente limitarse a esto: la preparación de propuestas para transferir las especies en cuestión al Apéndice I, la elaboración de procedimientos de manejo suplementarios ya sea en favor de las poblaciones silvestres (tales como cupos de caza, temporadas de caza, tamaños límites de los especímenes, etc.) o bien en lo que se refiere a los controles del comercio, y la inclusión de taxa por razones de semejanza.

Para las especies de la lista "2", de gran prioridad, se deberían establecer proyectos con el objeto de recabar información sobre su biología y manejo. Cuando esas informaciones demuestran la necesidad, la especie debería transferirse a la lista "1".

5ta. etapa: Aplicación de las medidas correctivas

Las medidas correctivas deberían ser desarrolladas por los Estados del área de distribución concernida, sobre la base de las recomendaciones formuladas en las sesiones de trabajo.

Este procedimiento de cinco etapas fue aprobado en la reunión de Buenos Aires en 1985 y las etapas 1-3 ya fueron desarrolladas por el Centro UICN de Vigilancia Continua de la Conservación. La lista "C" fue preparada a tiempo

para la segunda reunión del Comité Técnico realizada en Junio 1986 en Lausanne, Suiza. Para cada especie incluida en la lista "C", se preparó un borrador presentando un resumen de toda la información disponible, incluyendo un análisis detallado de referencias e información disponible sobre el comercio y sobre el estado de la población y otros factores que se consideraron importantes. Basado en esta información, cada especie fue asignada a las dos listas sugeridas (lista 1, especies con problemas; lista 2, problemas posibles). En esta etapa se descubrió también que era posible que algunas especies, originalmente incluidas en la lista "C", no se vieran afectadas en forma significativa debido a los presentes niveles de comercio. Dichas especies fueron incluidas en un tercer grupo (lista 3, sin problemas). El Grupo de Trabajo del Comité Técnico sobre el comercio significativo de especies revisó la información proporcionada por el CMC, así como los listados presentados, y preparó recomendaciones para una acción ulterior, las cuales se enumeran a continuación. El Comité Técnico decidió asimismo que, después de revisión ulterior, el informe preparado por el CMC debía ser publicado.

Acción ulterior

El Grupo de Trabajo sobre el Comercio Significativo de Especies presentó un documento durante la segunda reunión del Comité Técnico en el que se delineaban propuestas para acciones ulteriores (WGR.TEC. 2.2). A continuación se describen las recomendaciones de dicho informe para las especies de reptiles concernidas, las cuales fueron modificadas durante la reunión del Comité Técnico.

Lista 1 (6 taxa)

Rhea americana albescens Se debería preguntar al Comité sobre Nomenclature si esta subespecie se debe considerar como un taxon válido. Si ese es el caso, la especie, en su totalidad, debería incluirse en el Apéndice II debido a razones de semejanza. En caso contrario, la totalidad de la especie debería incluirse en el Apéndice II para asegurar una protección adecuada de la población argentina.

Amazona aestiva La información que se proporcionó respecto al estado de esta especie indica que no se justifica su inclusión en la Lista 1 y que debería transferirse a Lista 2.

Anodorhynchus hyacinthinus El Grupo fue informado que se estaba preparando una propuesta para transferir esta especie al Apéndice I. Se estimó que se necesitaban datos adicionales para apoyar o rechazar esta propuesta. Por ese motivo, la Secretaría elaboró un estudio de campo, el cual fue llevado a cabo en febrero-marzo de 1987 en Brasil, Bolivia y Paraguay. De acuerdo con los resultados del estudio la especie fue transferida al Apéndice I en la sexta reunión de la Conferencia de las Partes, realizada en Ottawa, Canadá, en julio de 1987.

Cacatua moluccensis La Secretaría debería obtener información adicional, particularmente sobre los resultados del estudio realizado en 1984, y ponerse en contacto con Indonesia para poder evaluar la situación con más detalle (ver más abajo cuando se tratan las especies de la Lista 2).

Eos reticulata La Secretaría debería ponerse en contacto con Indonesia para evaluar la situación con más detalle (ver más abajo cuando se tratan las especies de la Lista 2).

Probosciger aterrimus Dado que el mayor problema identificado fue el de aplicación de los controles, se recomendó que la Secretaría emitiera una Notificación a las Partes la cual mencionaría el problema de la

reexportación. Esa notificación fue enviada el 28 de noviembre de 1986 (No. 417). Posteriormente la especie fue transferida al Apéndice I en la sexta reunión de la Conferencia de las Partes, realizada en Ottawa, Canadá, en julio de 1987.

Lista 2 (46 taxa)

El Grupo de Trabajo recomendó que se diera prioridad a las especies o al grupo de especies de los siguientes taxa para la recolección de información (en orden de importancia):

1. Loros del sudeste asiático (ocho especies, i.e. *Cacatua alba*, *Cacatua galerita*, *Cacatua goffini*, *Cacatua moluccensis*, *Cacatua sanguinea*, *Cacatua sulphurea*, *Eos reticulata* y *Lorius garrulus*).
2. Loros de América Central y del Sur (siete especies, i.e. *Amazona farinosa*, *Amazona ochrocephala*, *Amazona tucumana*, *Ara ararauna*, *Ara chloroptera*, *Ara militaris* y la especie del Apéndice *Ara macao*).

Asimismo, el Grupo realizó la siguiente recomendación especial:

Tanygnathus heterurus: Los estados importadores deberían prestar su ayuda urgentemente para aclarar los problemas de identificación y las dudas taxonómicas.

Lista 3 (27 taxa)

Se acordó que la información disponible indicaba que estos taxa no se encuentran fundamentalmente afectados por el comercio internacional.

METODOS

Este informe incluye la revisión del estado biológico y comercial de especies que aparecen en la lista "C". Este informe ha sido realizado por el Centro UICN de Vigilancia Continua de la Conservación, bajo contrato con la Secretaría CITES, cubriendo el periodo Septiembre de 1985 a Abril de 1986. Como paso inicial, la Secretaría CITES circuló, a través de las Autoridades Administrativas CITES de los Estados miembros en la Convención, o a través de las Autoridades Administrativas responsables de fauna u otras autoridades equivalentes en los estados no Partes en la Convención, una solicitud de información a todos los países en los que se encuentran las especies de la lista "C". Los comentarios recibidos fueron enviados a la CMC y se clasificaron de la siguiente manera: Nombre del país de la Autoridad

Administrativa CITES, 1987. Los comentarios recibidos de las autoridades responsables de los Estados no Partes fueron clasificados por nombre de la autoridad gubernamental concernida. También se solicitó información de especialistas concernidos (personas o agencias), y entre las fuentes principales se encontraban los grupos de especialistas de la Comisión de Supervivencia de Especies de la UICN. También fueron consultadas algunas organizaciones comerciales y otras Partes interesadas. Un informe borrador se presentó en la segunda reunión del Comité Técnico CITES en Junio de 1986. Este informe fue discutido y corregido por el Comité y las copias, una vez revisadas, fueron nuevamente enviadas por la Secretaría CITES a todos los países concernidos y a las partes interesadas, incluyendo el Pet Industry Joint Advisory Council. Las modificaciones finales al texto, así como la información sobre el comercio reciente, fueron incluidas por el CMC durante 1987.

Por lo tanto, en la minoría de los casos, la designación de la categoría de una especie al realizarse la segunda reunión del Comité Técnico ha sido modificada a la luz de nueva información, en particular la información comercial de 1985 que ha sido agregada a los informes.

Se recolectó e incluyó la información bajo los siguientes títulos: distribución; población; habitat y ecología; amenazas a la supervivencia; comercio internacional; medidas de conservación; y cría en cautividad.

Los datos sobre el comercio CITES fueron analizados para los años 1980 a 1985, utilizando los Informes Anuales de las Partes de la Convención, cuyas estadísticas han sido procesadas en el computador del CMC. Esta información incluye el registro de importaciones y exportaciones de especies de los Apéndices de CITES, así como sus productos, y contienen información sobre las especies concernidas, una descripción del tipo y la cantidad del producto, y, en el caso de importaciones, el exportador o re-exportador y los principales países de origen, y, para las exportaciones, el destino y la fuente de origen. En lo que concierne al comercio entre dos Partes en CITES, cada transacción debería por lo tanto registrarse dos veces: una vez por el importador y otra por el exportador. Tal como sugirió el Grupo de Trabajo sobre el Comercio Significativo, el análisis se restringió al comercio de animales vivos o de productos no trabajados, sin embargo, también se incluyeron productos terminados en un número pequeño de casos excepcionales.

Varios problemas reducen el valor de la información comercial de CITES en la evaluación de los niveles del comercio mundial. Por ejemplo: no todas las naciones que realizan comercio son Partes en CITES; no todas las Partes en CITES elaboran informes anuales, y la presentación de los informes varían en calidad y regularidad. Algunos países pueden proporcionar información sobre la cantidad de especímenes que cubren los permisos expedidos, mientras que otros proporcionan información sobre la cantidad real por la cual se utilizó el permiso. Más aún, las exportaciones de un país al finalizar un año pueden arribar al país importador al comienzo del año siguiente, y en tales casos es posible que, por la misma transacción, se registren en los cuadros comerciales para ambos años. Estos factores y otros deben tomarse en cuenta cuando se analizan los datos de CITES, pero para la mayoría de las especies, estas estadísticas representan la única fuente detallada de información respecto a su comercio internacional y generalmente los informes CITES son de gran utilidad al evaluar los niveles aproximados de comercio legal, así como los patrones geográficos en tal comercio y las tendencias relativas a los volúmenes de productos preferenciales, en un determinado lapso de tiempo.

En la mayoría de los casos, los datos comerciales son presentados en los dos cuadros siguientes. En el primero (normalmente Cuadro 1), se detallan las importaciones netas de países importadores, cuyo total nos proporciona una cifra estimada del volumen mínimo de comercio mundial anual. El segundo (normalmente Cuadro 2) muestra el origen, o en los casos en los que el origen no se menciona, el exportador de los especímenes en cuestión. Cuando los especímenes han sido exportados a un país intermediario y posteriormente reexportados, el comercio mínimo neto ha sido calculado, asegurándose de que los números sólo fueron registrados una sola vez. Por lo tanto, el cuadro muestra, anualmente, la cantidad mínima de artículos de comercio de cada país de origen. Sin embargo, ya que algunos artículos pueden ser reexportados sin que necesariamente aparezca especificado el país de origen, éstos pueden ser registrados dos veces en el Cuadro 2. Por lo tanto, los totales son usualmente más altos que los que aparecen en el Cuadro 1.

ARGENTINIAN GREATER RHEA

Recommended list: 1
[Problem]

Rhea americana albescens (Arribalzaga and Holmberg, 1878)

Order RHEIFORMES

Family RHEIDAE

SUMMARY AND CONCLUSIONS *Rhea americana* comprises five subspecies and is widely distributed in eastern South America. *R.a. albescens* is apparently the only subspecies occurring in Argentina and is probably restricted to that country, although some authorities state that it also occurs in Bolivia and Brazil. Otherwise, contiguous populations in Brazil, Paraguay and Uruguay belong to three other subspecies apparently separated only by the international boundaries. Widely distributed in northern Argentina south to 40°S, extending west to the Andes. Its overall status is not well known, although it has become extinct in many areas and survives in good numbers only in some regions of the Chaco. In Cordoba it is declining rapidly and in Buenos Aires Province it now exists only in a semi-captive state on ranches. Found in open scrubland and pampas up to 2000 m. Threatened by habitat loss in many areas.

Very few live birds are in trade, but there has been a considerable trade in skins and feathers. The use of various units to describe the trade prevents any accurate estimate of the annual volume of world trade from being made. In 1980 a total of 56 930 skins was recorded and in 1985 the total number of skins was 20 773 together with a further 9477 kg recorded by weight. Feather trade varied between 160 kg and 1170 kg each year. During the period 1980-1983 most of the reported trade in *albescens* apparently originated in Paraguay and may therefore have referred to other subspecies. Argentina reported all of its exports and re-exports involving this species as Appendix II *Rhea americana* despite the fact that only the subspecies *albescens* is listed in Appendix II. *Rhea americana albescens* has been fully protected in Argentina since 1981. As there is no evidence that any other subspecies occurs in the country, this legislation would seem to protect the whole species, and therefore no export should have been allowed after 1981. Exports of specimens of the species were specifically prohibited in 1986.

The species is apparently declining in Argentina and trade has been cited as a contributory factor in the decline. It is necessary to obtain more detailed population data before the affects of trade can be fully assessed. Because of the confusion over the distribution and validity of the subspecies, the control and monitoring of this trade would be facilitated if the whole speciss were included in Appendix II.

DISTRIBUTION *Rhea americana* comprises five subspecies and is widely distributed in eastern South America. There is considerable confusion over the distribution of the subspecies. *R.a. albescens* is apparently the only subspecies occurring in Argentina and is probably restricted to that country, although some authorities state that it also occurs in Bolivia and Brazil. Otherwise, contiguous populations in Brazil, Paraguay and Uruguay belong to three other subspecies apparently separated only by the international boundaries.

R.a. albescens is distributed in Argentina from the south-east end of the Chaco (Anon., 1984b), south to Rio Negro and Mendoza (Nores et al., 1983), excluding the Andean highlands (Short, 1975). Rabinovich et al. (1987) recorded its occurrence in the following provinces: Salta, Jujuy, Formosa, Tucuman, Chaco, Santiago del Estero, Misiones, Corrientes, Entre Rios, Cordoba, Santa Fe, Catamarca, La Rioja, San Luis, Mendoza, La Pampa, Neuquen,

Rhea americana albescens

and Buenos Aires. Blake (1977) suggested that the Rheas found in eastern Bolivia and the Mato Grosso in Brazil possibly also represented this subspecies, although they are more likely to be *Rhea americana araneipes* which has been described from the Chaco of Paraguay, extending into the Mato Grosso and eastern Bolivia.

POPULATION No estimates of the population size are available. Described as very scarce and declining rapidly in Cordoba (Nores et al., 1983). Bruning (*in litt.*, 25 November 1985) stated that the species was likely to disappear from the few areas in Argentina where it still occurred. Described as 'semi-captive on estancias', in Buenos Aires province (Narosky, 1985) and largely extirpated, only surviving in limited areas of undisturbed habitat (Anon., 1984b).

HABITAT AND ECOLOGY Found in more or less open country, although not totally restricted to open grassland as the species also inhabits woodland edges, savannas and the margins of cultivated areas (Short, 1975), up to 2000 m altitude (Blake, 1977). A large, flightless, sedentary bird often found in quite large groups of up to a hundred. An omnivore, its diet has been reported to consist of fruits, seeds, vegetation, insects, amphibians, reptiles and small birds and mammals. Its main predators are Jaguar (*Felis onca*) and Puma (*Felis concolor*). At least thirty, and sometimes as many as sixty, eggs are laid, which are then incubated solely by the male birds (Anon., 1984b).

THREATS TO SURVIVAL Eliminated in many areas as an agricultural pest (Bruning, D., *in litt.*, 25 November 1985). Reported to have been hunted for sport, for its skins and for its feathers which, although less valuable than those of the Ostrich, are widely used for the production of feather dusters (Anon., 1984b). Its meat is reported to be utilised at a local level (Rabinovich et al., 1987). Threatened by the destruction of habitat caused by expanding human populations and agricultural development (Anon., 1984b).

INTERNATIONAL TRADE It was reported that between 1976 and 1979 Argentina exported 103 543 Rhea specimens, including feathers and leather, mainly from *Rhea americana*, although this made up only 0.4% of the total value of exports of wildlife products (Mares and Ojeda, 1984). Cajal (1986 cited in Rabinovich et al., 1987) recorded skin exports from Argentina between 1980 and 1984 of: 1980- 24 578; 1981- 26 995; 1982- 14 580; 1983- 10 619; 1984- 14 430. Other recent trade data were obtained from CITES statistics.

Rhea americana albescens is apparently restricted to Argentina, therefore all reported trade should be of this origin. The species as a whole was listed in CITES Appendix III by Uruguay. However, a brief glance at the CITES data (Tables 1 and 2) revealed that a significant proportion of trade in *Rhea americana albescens* was reported to have originated in Paraguay and furthermore, that a considerable trade has been reported as Appendix II *Rhea americana* from both Argentina and Paraguay.

It can also be seen that a number of transactions which seem to correlate, have been reported as the subspecies by one Party and as the species by another Party. This, together with the normal problems of incompatible units and the often poor reporting of countries of origin by re-exporting Parties, makes any attempt to provide a detailed and accurate analysis of the trade very difficult.

Therefore, in order to provide a reasonable impression of the trade, the data are treated in two ways; firstly each table includes the transactions reported

Rhea americana albescens

to have involved the subspecies alone, irrespective of the reported origin; and secondly the data for all transactions involving the whole species are tabulated, whether reported as *Rhea americana albescens* or *Rhea americana*, including trade reported as Appendix III, none of which was reported to have originated in Uruguay.

Table 1. Total net imports for each year from 1980 to 1985.

	1980	1981	1982	1983	1984	1985
a. <i>R.a. albescens</i>						
Skins:	56930	49546 11877 kg 1262 m ²	22817 6169 kg 160 m ²	2637 11033 kg 3 m ²	715 18658 kg 26 m ²	1920 ^A 9477 kg 202 m ²
Feathers:	-	784 160 kg	-	98 kg	-	-
Live birds:	-	22	-	-	14	6
Eggs:	-	-	-	-	21	-
b. <i>R. americana</i>						
Skins:	56930	49732 11877 kg 1262 m ² 6 shp	36028 6300 kg 160 m ²	7055 11479 kg 4 m ²	17207 18660 kg 96 m ²	20773 9081 kg 202 m ²
Feathers:	-	784 160 kg	130 1170 kg	135 952 kg	20 372 kg	- 348 kg
Live birds:	-	22	-	10	14	17
Eggs:	-	-	-	-	21	-

It can be seen from Table 1 that a large number of skins were traded, however the exact number is difficult to estimate without an indication of the average weight and area of a skin. The volume of reported trade seems to have been greatest in 1981, but significant quantities appeared in trade in later years. In 1983 and 1984 a large proportion of transactions was reported as the species rather than the subspecies. An apparently large quantity of feathers was traded. However, the number of birds represented is unknown.

The main importing countries were Japan and the United States, although a wide variety of other countries were involved in the import and re-export of skins and feathers. Most of the live animals in trade were reportedly captive-bred.

Rhea americana albescens

Table 2. Reported countries of origin or export (where no country of origin was specified) of specimens of *R. americana* and *R.a. albescens* recorded in trade by CITES Parties. The figures in parentheses show, for countries with wild populations of the species, the number of specimens reported to have been exported directly by that country. S = skins; F = feathers. Live specimens and eggs are excluded from the tabulation.

		1980	1981	1982	1983	1984	1985
a. <i>Rhea americana albescens</i>							
Countries with wild populations of the subspecies							
Argentina	S	1516 (1516)	10203 (10202)	317 (100) 1008 kg (1008 kg)	112 (0)	- 11000 kg (11000 kg)	11599 (11575) 396 kg (396 kg) 202 m ² (0)
	F	-	160 kg (160 kg)	-	98 kg (98 kg)	-	-
Countries without wild populations of the subspecies							
Bolivia	S	-	-	-	-	-	90
Japan	S	-	2047 1032 m ²	-	-	-	-
Paraguay	S	55414	37628 11877 kg 227 m ²	22500 5161 kg	2410 11033 kg 1 m ²	- 7658 kg 5 m ²	1166 9081 kg
Singapore	S	-	-	-	-	-	6000
South Africa	F	-	784	-	-	-	-
USA	S	-	-	-	-	-	454
Unknown	S	-	31	4042 160 m ²	115 4 m ²	715 22 m ²	-

Table 2 shows that a large proportion of the specimens of *Rhea americana albescens* in trade were reported to have originated in Paraguay, although the subspecies is apparently confined to Argentina. The tabulation of all trade, whether reported as the species or the subspecies (b), probably shows a more accurate indication of the volume of trade originating in Argentina. It is notable that in 1982, 1983 and 1984 much of the trade originating in Argentina was described as *Rhea americana* rather than as the subspecies *albescens*. This trade was actually reported as such in the Argentinian CITES Annual Reports, which also included a large volume of re-exports originating in Paraguay under the same description. Much of the trade in 1985 was again reported by Argentina as the species, but other Parties reported imports from Argentina as involving the subspecies.

Table 2. (continued)

		1980	1981	1982	1983	1984	1985
b. <i>Rhea americana</i>							
Countries with wild populations of the species							
Argentina	S	1516 (1516)	10203 (10202)	11841 (11618) 1008 kg (1008 kg)	1674 (1562)	5260 (5260) 11001 kg (11001 kg) 69 m ² (0)	13261 (13237) 202 m ² (0)
	F	-	- 160 kg (160 kg)	130 (130) 1170 kg (1170 kg)	- 927 kg (927 kg)	20 (20) 372 kg (372 kg)	- 348 kg (348 kg)
Bolivia	S	-	-	-	-	-	643 (0)
Paraguay	S	55414 (587)	37628 (30861) 11877 kg (11541 kg) 227 m ² (0)	24193 (22500) 9300 kg (8161 kg)	5317 (1000) 11479 kg (11026 kg) 1 m ² (0)	11947 (0) 7659 kg (7658 kg) 5 m ² (0)	1169 (0) 9081 kg (9081 kg)
Countries without wild populations of the species							
Japan	S	-	2047 1032 m ²	-	-	-	-
Singapore	S	-	-	-	-	-	6000
South Africa	F	-	784	-	-	-	-
USA	S	-	-	-	-	-	454
Unknown	S	-	31	4025 160 m ²	115 4 m ²	715 22 m ²	-

The volume of trade originating in Argentina does not show any clear trend, the large numbers reported in 1984 and 1985 certainly illustrate that the trade has not declined significantly when compared with the number of specimens exported in the late 1970's (Mares and Ojeda, 1984). Exports from Argentina indicated by the reports of CITES Parties correlate reasonably closely with those recorded by Cajal (1986 cited in Rabinovich et al., 1987) for the years 1980 to 1984, although the use of different units inhibits this comparison for most years. It is not possible to estimate the total number of birds represented by the numbers of skins and feathers in trade owing to the variety of units used.

Rhea americana albescens

CONSERVATION MEASURES This subspecies has been protected in Argentina since 1981 by Ley No. 22.421 Article 7 (Fuller *et al.*, 1987). Export of specimens of the species were prohibited from 23 February 1986 (CITES Notification No. 384, dated 7 May 1986).

CAPTIVE BREEDING An annual average of 28 animals was bred between 1970 and 1981 in collections contributing to the International Zoo Yearbook (Duplaix-Hall, 1972-1975; Olney, 1976-1983).

FISCHER'S LOVEBIRD

Recommended list: 2
[Possible problem]

Agapornis fischeri Reichenow, 1881

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A monotypic species occurring mainly in northern Tanzania. It has also been recorded in Rwanda and Burundi, perhaps only nomadic birds escaping a period of drought in its normal range. Introduced birds are established in several areas of Kenya and on the coast of Tanzania with *A. personata* in several areas at the eastern edge of its range. In 1980 it was described as fairly common and widespread. Inhabits wooded grasslands and cultivated areas.

The recorded trade during 1981-85 ranged from 11 438 in 1981 to 60 313 in 1982. Most originated in Tanzania but several thousand were exported by Taiwan, presumably captive-bred but not stated as such, and 1500 were exported by Senegal, perhaps misidentified and actually referable to another *Agapornis* sp. The species is fully protected in Tanzania. It is known to attack ripening crops, particularly millet and maize but it does not seem to have been reported as an important pest anywhere. It breeds prolifically in captivity and large numbers are reared every year.

The fairly high volume of trade could be having an effect on the populations of this species but, if it is fairly common throughout its range (about 100 000 sq.km.) any effects are not likely to be very significant. Since the species is readily bred in captivity, the capture and export of large numbers of wild individuals may not be necessary to satisfy the demand.

DISTRIBUTION Mainly in northern Tanzania, with occasional records from Burundi and Rwanda. Introduced populations in Kenya.

Burundi A record in July 1974 from Bujumbura, in the west of the country, probably represents an irruption of birds from Tanzania (Gaugris et al., 1981).

Kenya Introduced to the Isiolo District (Forshaw and Cooper, 1978), Athi River (Britton, 1980) and around Lake Naivasha (Cunningham-van Someren, 1969). However, it appears that the common lovebird at Naivasha and elsewhere in Kenya is hybrid between *A. fischeri* and *A. personata* (Thompson, 1987).

Rwanda Recorded from Akagera National Park in July-August 1973 and from Kigali, probably representing an irruption of birds from Tanzania during an exceptional dry period (Vande Weghe, 1981).

Tanzania Widespread in the north of the country: from Lake Victoria in the north, including the islands of Kome and Ukerewe, to Mbulu, the Ngorongoro Crater and Arusha National Park in the east (Gerhart, 1978), and south to Nzega (Turner, 1977). Sympatric with *Agapornis personata* in the south-east of the range, from Lake Manyara to Babati (Gerhart, 1978). Introduced near Tanga and Dar-es-Salaam about 1928 (Moreau, 1947; Turner, 1977).

POPULATION The total range of the species is estimated to be about 100 000 sq. km.

Tanzania Said to be "fairly common" and widespread. Common throughout much of the Serengeti and on the west side of Lake Singida (Turner, 1977).

Agapornis fischeri

HABITAT AND ECOLOGY Inhabits the inland plateau, between 1100 m and 1700 m, although introduced populations occur on the coast. In the east of the range the species inhabits grassland with scattered *Acacia*, *Commiphora* and *Balanites* trees; in the west, heavily cultivated land dotted with baobabs. Usually seen in small flocks, but may aggregate in flocks of over a hundred to feed on grain. They feed mainly on seeds, procured near the ground, but also attack crops, particularly millet and maize (Forshaw and Cooper, 1978). It has been regarded as a pest in the past (Elliot in Anon., 1967) but has been fully protected since 1974.

Breeding is colonial, usually in holes in trees or buildings. It is said to occur in May-July (Forshaw and Cooper, 1978), although Turner (1977) reports that it takes place in Serengeti during the January-February rains. A clutch of four young has been recorded (Turner, 1977). In captivity, incubation lasts 23 days, and the young leave the nest 38 days after hatching (Forshaw and Cooper, 1978). Feral hybrids with *Agapornis personata* have been reported (Britton, 1980).

THREATS TO SURVIVAL None known.

INTERNATIONAL TRADE Minimum net imports of *A. fischeri* reported to CITES fluctuated between 11 438 and 60 313 in the years 1981 to 1985 (Table 1). The chief importers were the USA, F.R. Germany, the UK, the Netherlands, Belgium and Japan. Tanzania was the source of the great majority of the birds, but significant quantities were reported from Belgium, the Netherlands, Taiwan, and Senegal. Some of those from Belgium and the Netherlands were said to be captive-bred, and it is thought that birds from Taiwan may also have been bred in captivity, as there are known to be commercial captive breeding operations in the country (Roet and Milliken, 1985). The birds reported as having originated in Senegal may represent misidentification of another *Agapornis* sp.

CONSERVATION MEASURES The species has apparently been fully protected in Tanzania since 1974 (Wildlife Conservation (National Game) Order, 1974).

CAPTIVE BREEDING The species breeds prolifically in captivity and large numbers are reared every year (Low, 1986a). CITES Annual Reports indicate that Taiwan may be the source of many captive-bred birds. However, wild-caught birds are also imported into Taiwan in large numbers and are presumably re-exported.

Table 1. Minimum net imports of live *A. fischeri* reported to CITES.

	1981	1982	1983	1984	1985
Austria	-	400	80	350	200
Bahamas	-	-	-	26	-
Belgium	-	5725	4239	2410	8384
Brazil	-	-	22	-	-
Bulgaria	-	-	1	-	-
Canada	-	824	-	475	342
Cayman Islands	-	-	-	10	27
Cyprus	-	-	-	34	10
Czechoslovakia	-	215	33	-	-
Denmark	-	30	200	400	-
Dominica	-	-	-	-	16
Egypt	-	-	-	140	1270
France	-	350	3158	709	2805
Germany, F.R.	3632	4339	5037	6332	9010
Greece	-	-	-	-	252
Indonesia	-	-	-	-	2
Israel	-	-	-	-	163
Italy	-	1150	2870	600	604
Japan	-	1350	8273	3923	-
Jordan	-	-	-	10	-
Kenya	-	-	-	200	-
Kuwait	-	-	-	20	52
Morocco	-	-	-	-	8
Malta	-	-	-	-	40
Mexico	-	-	-	-	94
Netherlands	-	9574	5501	7349	5989
Netherlands Antilles	-	-	-	104	39
New Zealand	6	-	-	-	90
Oman	-	-	-	-	1040
Pakistan	-	-	-	-	10
Poland	-	-	1	-	-
Portugal	-	2800	250	380	214
Qatar	-	-	-	4	62
Saudi Arabia	-	-	50	599	109
Singapore	-	-	44	-	-
South Africa	-	-	-	-	1200
Spain	-	1604	1600	470	3186
Swaziland	-	2000	-	-	600
Sweden	-	835	800	-	2197
Switzerland	-	215	33	-	250
Trinidad & Tobago	-	-	-	99	94
Uganda	-	-	-	4	-
United Arab Emirates	-	-	1481	1912	2918
UK	-	5044	9000	1503	2980
USA	7800	19978	9643	15212	16056
TOTAL	11438	56218	52239	43319	60313

Agapornis fischeri

Table 2. Reported countries of origin or export for exports of live *A. fischeri* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. fischeri</i>					
Tanzania	10830	53968	43315	39332	59218
Countries without populations of <i>A. fischeri</i>					
Africa	-	-	-	2*	-
Australia	6	-	-	-	98*
Belgium	200	200	380	870*	61*
Czechoslovakia	-	-	-	59	15
France	-	-	-	-	60
German D.R.	-	-	-	76	191
Germany, F.R.	-	1	-	-	-
Macao	-	-	-	-	1
Netherlands	-	-	-	723*	129*
Saudi Arabia	-	-	-	1*	1
Senegal	-	1500	-	-	-
South Africa	2	-	-	-	-
Sweden	-	220	-	-	200
Taiwan	400	750	8923	3921	788
UK	-	7	-	-	-
Unknown	-	500	696	12	2
* captive-bred					

YELLOW-COLLARED LOVEBIRD
MASKED LOVEBIRD

Recommended list: 2
[Possible problem]

Agapornis personata Reichenow, 1887

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A monotypic species virtually endemic to north-east Tanzania. There is a single record from Taveta in south-east Kenya. Introduced birds are established on the coast of Tanzania and in several areas of Kenya. It is marginally sympatric with *A. fischeri* in the north-west part of its range. In 1980 it was described as widespread and fairly common but in March 1984 the CITES Management Authority in Tanzania declared that 'due to the observed population trends ... trade in this species is banned until further notice'. No further details of these population trends are known. Inhabits well-timbered bushlands.

The recorded trade during 1981-85 ranged from 2695 in 1984 to 17 119 in 1982. Most originated in Tanzania but some captive-bred birds were exported by other countries, including over 1500 exported by the Netherlands in both 1984 and 1985. The species is fully protected in Tanzania and export has been banned since 15 March 1984. Over 4000 birds were reportedly imported by Japan from Taiwan in 1985. Unless these specimens had been imported from Tanzania prior to the 1984 export ban this trade would appear to have been illegal.

Further information on the population status and trends is required before the effects of trade can be assessed. The origin of birds exported from Taiwan should be investigated.

DISTRIBUTION Mainly in central Tanzania. Introduced populations in Kenya.

Kenya Introduced to the Mombasa area, where it is well established north of the town around Nyali, Bamburi and Kikambala (Turner, 1977). Breeding populations exist in Nairobi (Cunningham-van Someren, 1969). A single record from the south-east at Taveta in 1922 may have been an escape (Turner, 1977). The hybrid between *A. fischeri* and *A. personata* has been introduced and is established in various parts of Kenya (Thompson, 1987).

Tanzania Occurs in north and central areas, from Arusha south through Dodoma to the Ruaha and Lake Rukwa areas. Introduced around Dar-es-Salaam about 1928 (Moreau, 1947; Turner, 1977), and near Tanga (Britton, 1980). Sympatric with *Agapornis fischeri* in the north of the range, from Lake Manyara to Babati (Gerhart, 1978).

POPULATION

Tanzania Said to be fairly common and widespread. Common in Tarangire National Park and around Dodoma. The introduced population at Dar-es-Salaam is "well established" (Turner, 1977). The CITES Management Authority banned all export of this species in 1984 "due (sic) to the observed population trends".

HABITAT AND ECOLOGY. Occurs naturally between 1100 m and 1800 m inland, although feral populations occur on the coast. Favours well timbered bushland, particularly with baobab trees (Britton, 1980). Known to nest in holes in baobab trees (Turner, 1977), crevices in buildings and old swift nests, usually colonially, between March and August. Incubation lasts 23

Agapornis personata

days, and the young leave the nest about 44 days after hatching. Feeds mainly on seeds (Forshaw and Cooper, 1978). It has been regarded as a pest in the past (Elliot, 1967) but has been fully protected since 1974.

INTERNATIONAL TRADE Minimum net imports of live *A. personata* reported to CITES reached a peak of 17 119 in 1982 and then declined to 2695 in 1984. The decline in 1984 was probably due to the export ban imposed in 1984, but this cannot explain why exports from Tanzania declined in 1983. In 1985 net trade increased to 5807 birds.

The chief importers were the USA, F.R. Germany, the Netherlands, Japan, Italy and Portugal (Table 1). The reported countries of origin are shown in Table 2. Prior to 1984 the great majority of the birds came from Tanzania, but in that year 500 birds were reported as having been exported from Kenya, and 1775 captive-bred birds from the Netherlands. A similar number of reportedly captive-bred birds was exported from the Netherlands in 1985 and over 4000 specimens were exported from Taiwan. It seems unlikely that such a large stock of birds would have been held in Taiwan since before the introduction of Tanzania's export ban in early 1984.

CONSERVATION MEASURES The species was fully protected in Tanzania in 1974 (Wildlife Conservation (National Game) Order, 1974) and this was reinforced by a ban on export in March 1984 (CITES Notification No. 283 dated 15 March 1984). All commercial wildlife exports from Kenya are prohibited (African Wildlife Laws, IUCN Environmental Policy and Law Occasional Paper, No. 3).

CAPTIVE BREEDING Breeds well in captivity (Low, 1986a).

Table 1. Minimum net imports of live *A. personata* reported to CITES.

	1981	1982	1983	1984	1985
Albania	-	-	-	-	4
Argentina	-	-	-	-	56
Aruba	-	-	-	-	10
Austria	-	200	200	-	-
Bahamas	-	-	-	4	54
Bahrain	-	-	-	14	14
Bangladesh	-	-	-	14	-
Belgium	-	202	-	385	-
Canada	-	870	450	161	345
Cuba	10	-	-	4	10
Cyprus	-	-	-	143	18
Denmark	-	20	-	-	-
Dominica	-	-	-	-	12
Ecuador	-	-	-	9	-
Egypt	-	-	-	60	76
France	-	-	-	250	-
Germany, F.R.	1339	2099	1358	52	16
Greenland	-	-	-	-	15
Honduras	-	-	-	-	4
India	-	-	-	94	40
Indonesia	-	-	-	10	2
Israel	-	-	-	-	117
Italy	-	1050	1124	-	-
Japan	-	170	-	4	4063
Jordan	-	-	-	10	-
Korea	-	-	-	80	4
Kuwait	-	-	-	-	60
Malaysia	-	-	-	-	6
Netherlands Antilles	-	-	-	67	117
Netherlands	-	3599	-	-	-
New Zealand	20	-	-	-	-
Oman	-	-	-	-	2
Pakistan	-	-	-	187	132
Peru	-	-	-	-	4
Portugal	-	1600	-	16	66
Qatar	-	-	-	6	-
Saudi Arabia	-	-	-	47	49
Singapore	-	-	-	101	-
South Africa	15	-	-	-	-
Soviet Union	-	-	20	-	-
Spain	-	100	-	-	10
Sri Lanka	-	-	-	8	35
Suriname	-	-	20	25	-
Swaziland	-	700	-	-	-
Sweden	-	-	202	77	383
Switzerland	-	165	112	-	-
Taiwan	-	-	-	783	-
Trinidad & Tobago	-	-	-	66	56
UAE	-	-	250	-	4
UK	-	649	532	-	2
USA	4200	5695	1545	3	21
Unknown	-	-	-	15	-
TOTAL	5584	17119	5813	2695	5807

Agapornis personata

Table 2. Reported countries of origin or export for exports of live *A. personata* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. personata</i>					
Kenya	-	-	-	500	-
Tanzania	5564	16924	5077	250	-
Countries without wild populations of <i>A. personata</i>					
Australia	20	-	-	-	2*
Belgium	-	50*	72	15	163*
Brazil	-	-	-	2	-
Czechoslovakia	-	-	-	-	10*
Denmark	-	-	2	35	71
Finland	-	-	-	-	20
France	-	-	-	-	290
German D.R.	-	53	30	101	357
Germany, F.R.	-	1	-	-	-
Japan	-	-	-	-	5
Macau	-	-	-	-	1
Netherlands	-	-	20	1775*	1642*
South Africa	-	20	90	52	73*
Sweden	-	270	-	-	-
Taiwan	-	100	460	200	4065
USA	-	-	20	-	-
Unknown	-	200	204	3	1

* captive-bred

MOLUCCAN KING PARROT
AMBON KING PARROT

Recommended list: 3
[No problem]

Alisterus amboinensis (Linné, 1766)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Occurs only in Indonesia, from Peleng and the Sula Islands east through Maluku to Irian Jaya. Not seen commonly in most of its range. However it may be scarce locally and it may be significant that it was not seen on Ambon during many months of one investigation in 1980/81. It is a forest species and may be confined to areas that are largely primary. Habitat loss is a major threat especially in Maluku where 90% of the rainforest is under timber concessions.

The recorded trade amounts to several hundred live birds per year, with a peak of 859 in 1982. The species is not protected in Indonesia but both capture and export are regulated by a licensing system.

It is unlikely that this trade is significantly affecting the populations of this species overall, but if the trade largely involves the nominate race (from Ambon and Seram), as indicated by one recent author, it may be adversely affecting these local populations.

DISTRIBUTION Confined to Indonesia: from Peleng and the Sula Islands, east through Maluku to the western Papuan Islands and western Irian Jaya (Forshaw and Cooper, 1978). Within Maluku, known only on Ambon, Seram, Buru and Halmahera (Smiet, 1985). Six subspecies are recognised.

A. a. amboinensis (Linné) Ambon and Seram (van Bemmell, 1948).

A. a. sulaensis (Reichenow) Confined to the Sula Islands (Eck, 1977).

A. a. versicolor Neumann Restricted to Peleng (White and Bruce, 1986).

A. a. buruensis (Salvadori) Buru, southern Maluku (van Bemmell, 1948).

A. a. hypophonius (S. Müller) Halmahera, northern Maluku (van Bemmell, 1948).

A. a. dorsalis (Quoy and Gaimard) Occurs on the western Papuan Islands (Rothschild, 1932) and in north-western New Guinea in Vogelkop east to the head of Geelvink Bay, Weyland Mountains, and somewhat east of Etna Bay, Irian Jaya (Beehler et al., 1986).

POPULATION No estimate of the total population is known.

In Maluku, Smiet (1985) identified the species on Seram and Buru away from the coast in primary forest, although not it was not seen on Halmahera or Ambon. Stresemann (1914) found it fairly frequent in west and central Seram. Rozendaal (*in litt.*, 1987) did not observe the species during four months of fieldwork in Halmahera in 1981-1985. In 1987 an encounter rate of 0.1 per hour was recorded in lowland forest at Soka, Seram; it was noted that numbers of this species may have been underestimated, owing to its elusive nature (Bowler, 1988).

In West Irian, Stein (in Rand and Gilliard, 1967) stated that the species was scarce in the Weyland Mountains. Gyldenstolpe (1955) remarked that, in light of the large number of specimens collected in 1948/49 in lowland and montane forests of the Arfak Mountains, the species was likely to be quite common

Alisterus amboinensis

throughout the Vogelkop. Hoogerwerf (1971) observed the species in a number of localities along Geelvink Bay, Vogelkop. Diamond *et al.* (1983) described the species as uncommon in the Kumawa Mountains and rare on the Wandammen Peninsula.

Both Smiet (1985) and Hoogerwerf (1971) believed that the species was probably more common than suggested by their limited sightings because it was difficult to observe.

HABITAT AND ECOLOGY. An inhabitant of mainly lowland forest (Smith, 1979) although also found in mid-mountain forests and individuals have been collected at up to 1400 m altitude (Stresemann, 1914). Described as arboreal and mainly crepuscular, a secretive bird seeking dark situations to perch and hide, they are reportedly reluctant to move when disturbed (Smith, 1979). Usually seen singly or in pairs quietly feeding amongst dense foliage on lower branches of forest trees. Diet includes acorns of *Lithocarpus* and other hard fruits (Beehler *et al.*, 1986), fruits, berries and buds (Forshaw and Cooper, 1978). Experience of captive breeding suggests that the usual clutch is three eggs, the incubation period 21 days and that the young remain in the nest for seven to eight weeks (Low, 1986a).

THREATS TO SURVIVAL According to Smiet (1985) the species is occasionally seen in captivity and traded in Maluku, but not in large numbers. The nominate race is reported to be most frequently in trade; however, both *hypophonius* and *dorsalis* have been identified but the former has proved extremely difficult to establish in captivity (Low, 1986a).

INTERNATIONAL TRADE Little known in aviculture until the 1970s, but since then the nominate race has been traded quite often (Low, 1986a). Listed in CITES Appendix II in 1981.

Table 1. Minimum net imports of live *A. amboinensis* reported to CITES.
bod. = bodies

	1981	1982	1983	1984	1985
Austria	-	5	-	-	-
Canada	-	-	-	3	18
France	-	-	-	-	39
Germany, F.R.	201	217	31	68	50
Italy	-	-	4	8	-
Japan	10	-	-	64	-
Malaysia	-	-	-	20	-
Saudi Arabia	-	-	-	8	-
Singapore	168	40	-	-	-
Spain	-	-	-	4	-
Switzerland	-	-	-	10	-
Thailand	-	20	2	14	-
UAE	-	-	-	-	9
UK	-	20	55	9	45
USA	87	557	168	1597	291
	-	-	-	+ 9 bod.	+ 21 bod.
Unknown	-	-	-	24	-
TOTAL	466	859	260	1830	452
	-	-	-	+ 9 bod.	+ 21 bod.

Alisterus amboinensis

The minimum net trade between 1981 and 1985 therefore averaged 774 birds each year with the largest number reported in 1984. The main importer was the USA, followed by the Federal Republic of Germany.

Table 2. Reported countries of origin or export for exports of live *A. amboinensis* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. amboinensis</i>					
Indonesia	466	859	260	1818	442
	-	-	-	+ 9 bod.	+ 21 bod.
Countries without populations of <i>A. amboinensis</i>					
Canada	-	-	-	1	-
South Africa	-	-	-	4*	-
Thailand	-	-	4	4	10

* = captive bred

The exports from Canada and Thailand were probably re-exports, however no country of origin was reported. The above data can be compared with the numbers reported by the Department of Nature Conservation to have been exported from Indonesia: 1981 - 410, 1982 - 781, 1983 - 155, 1984 - 333 (Indonesia CITES MA, 1986). These figures show reasonable correlation with those reported to CITES in all years except 1984.

In addition, records compiled by Balai Konservasi Sumber Daya Alam VIII for the period April 1983 through March 1985 (therefore only providing complete data for 1984) show the commercial harvest in Maluku of: 1983 - 95, 1984 - 728, 1985 - 20 (R. Milton, *in litt.*, 1986).

The volume of trade reported by PHPA in 1984 (333 birds) is far smaller than the quota of 3000 set for that year (see below).

CONSERVATION MEASURES Not protected; however recent legislation requires permits to be obtained from the Director General of Forest Protection and Nature Conservation (PHPA), in order to legally catch, own, breed or transport non-protected wildlife species (Decree of the Minister of Forestry No. 66 Kpts-11/1983). Trade is monitored by the Directorate General of Forest Protection and Nature Conservation (PHPA), Directorate of Nature Conservation, Subdirector of Species Conservation (Bogor). Annual harvest quotas are set for each species (Milton and Marhadi, 1987). In 1984 the quota for this species was 2500 from Maluku and 500 from Irian Jaya (Anon., 1984a), and in 1985 it was 1500 from Maluku and 1500 from Irian Jaya (Anon., 1985). The quota for 1986 was not available but in 1987 it had been reduced to 175 each from Maluku and Irian Jaya (Anon., 1987a). No information has been provided explaining the basis for setting the quotas; apparently periodic population surveys are not carried out (Indonesia CITES MA, 1987; Milton and Marhadi, 1987).

CAPTIVE BREEDING The first recorded breeding in Europe was in France in 1881. Known to have been bred in a number of countries but not in particularly large numbers, for example members of the Parrot Society in the United Kingdom reportedly bred 34 in 1976 and 20 in 1977 (Low, 1986a).

PAPUAN KING PARROT
GREEN-WINGED KING PARROT

Recommended list: 3
[No problem]

Alisterus chloropterus (Ramsay, 1879)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Restricted to the island of New Guinea, occurring in both Irian Jaya and Papua New Guinea. It is widely but thinly distributed, and is absent from the western end of the island. It is described as common in the north-east and as uncommon, but perhaps overlooked, elsewhere. Inhabits lowland and mid-mountain forest and is probably not seriously affected by habitat loss at present.

The recorded trade amounts to about 200 live birds per year, with a peak of 308 in 1983. The species is not protected in Indonesia but both capture and export are regulated by a licensing system.

It is unlikely that this trade is affecting wild populations.

DISTRIBUTION New Guinea, east of the Weyland Mountains (Irian Jaya), in Indonesia and Papua New Guinea.

Indonesia In Irian Jaya only, in two seemingly separate ranges. *A. c. moszkowskii* from Geelvink Bay in the west, eastwards across the border to Papua New Guinea. *A. c. callopterus* from Weyland Mountains in the west, eastwards to the upper Fly River, Central Highlands and Sepik River area (Forshaw and Cooper, 1978). In central New Guinea *A. c. callopterus* intergrades with *A. c. chloropterus* (Smith, 1979).

Papua New Guinea In the far north *A. c. moszkowskii* occurs from Aitape district westwards across the border to Irian Jaya. *A. c. chloropterus* ranges from the Central Highlands eastwards to Huon Peninsula and from the upper Fly River eastwards to Hall Sound (Forshaw and Cooper, 1978). In central New Guinea, Smith (1979) suggests that subspecies *callopterus* and *chloropterus* undoubtedly intergrade.

POPULATION Rand and Gilliard (1967) found the species to be rather uncommon.

Indonesia In a survey of the reserves of south-east Irian Jaya, Bishop (1984) indicated that in two reserves he obtained few records of the species; in two others he did not record the species, although it could be expected to occur.

Papua New Guinea Gilliard (1950) found the species to be uncommon in forested areas in south-east Papua, and Diamond (1972) said it was present in low numbers at all his forested collecting localities in the southern part of the Eastern Highlands, below 2000 metres. Mackay (1970) believed it to be relatively common in the Port Moresby area and Beehler (1978) said it was common in north-east New Guinea and was often seen in family groups. Generally scarce, but locally fairly common (Coates, 1985). The population of a study plot near Brown River was estimated to be three birds per 10 ha (Bell, 1982, see Coates, 1985).

HABITAT AND ECOLOGY *A. chloropterus* reaches about 38 cm in length. It is reported to inhabit forest and forest-edge usually from the foothills up to 1800 m, but rarely down to sea-level and up to 2800 m (Beehler et al., 1986), although Diamond (1972) said that in the south of the Eastern Highlands of New Guinea it was virtually confined to the shaded forest interior. He

Alisterus chloropterus

noted it occurred in groups of two or three. Near Port Moresby, Forshaw (Forshaw and Cooper, 1978) also saw single birds in dense forest, and not high up in the canopy.

The species is said to feed on seeds, berries, nuts, fruits, buds, blossoms and possibly insects (Forshaw and Cooper, 1978). Little is known about its reproduction. Smith (1979) says that two or three eggs form a clutch, that incubation is 19 days and that fledging takes eight weeks.

THREATS TO SURVIVAL In his study of the Eastern Highlands of New Guinea, Diamond (1972) reported that the lack of records of this species in the central parts of that area might be a result of the extensive deforestation there, below 2000 metres. In a study of the Mamberamo Region of Irian Jaya, Diamond (1979) stated that the commercial bird trade appeared to be the major threat to the fauna.

INTERNATIONAL TRADE The only country of origin from which trade has been reported in CITES annual reports, since 1981, is Indonesia. Exports to F.R.Germany and the USA accounted for most of the total trade reported.

Recent information from the Government of Indonesia (Indonesia CITES MA, 1986) indicates different numbers as having entered trade from Indonesia: 50 in 1981, 212 in 1982, 401 in 1983 and 241 in 1984. The difference between these data and those recorded in Indonesia's annual reports to CITES may be explained by the fact that Indonesia reports to CITES on the basis of permits issued rather than actual trade.

The only trade from Papua New Guinea was one skin imported by the USA in 1985, which is excluded from the following tables.

Table 1. Minimum net imports of live *A. chloropterus* reported to CITES.
bod. = bodies

	1981	1982	1983	1984	1985
Australia	-	-	4	-	-
Belgium	-	-	10	-	-
Denmark	-	-	32	25	-
France	-	-	10	-	-
Germany, F.R.	120	66	132	70	18
Japan	20	-	11	74	-
Korea Rep.	-	-	-	12	1
Malaysia	-	-	-	10	-
Singapore	40	55	-	-	-
South Africa	-	3	-	-	-
Spain	-	-	-	8	-
Switzerland	-	4	12	16	-
Thailand	-	9	6	15	-
UK	-	-	-	30	35
USA	24	42	50	48	33
				+ 2 bod.	+ 6 bod.
TOTAL	204	179	267	308	87
				+ 2 bod.	+ 6 bod.

Alisterus chloropterus

Table 2. Reported countries of origin or export of live *A chloropterus* reported to CITES.

	1981	1982	1983	1984	1985
<hr/>					
Countries having or possibly having populations of <i>A. chloropterus</i>					
Indonesia	204	179	267	320 + 2 bod.	87 + 6 bod.
Countries without populations of <i>A. chloropterus</i>					
Germany, F.R.	10	-	-	-	-
Switzerland	-	1*	-	-	-

* = captive-bred

CONSERVATION MEASURES

Indonesia Quotas on collecting were established for 1984 and 1985 as follows: 2500 *A. c. moszkowskii* and 500 *A. c. chloropterus* in each year (Anon., 1984a; Anon., 1985) and for 1987 the quotas were 350 for each subspecies (Anon., 1987a). No information has been provided explaining the basis for setting the quotas; apparently periodic population surveys are not carried out (Indonesia CITES MA, 1987; Milton and Marhadi, 1987).

Papua New Guinea does not permit commercial export (Parker, 1981).

CAPTIVE BREEDING The species has always been rare and expensive in trade (Low, 1986a). There are very few records of it being bred.

TURQOISE-FRONTED PARROT
BLUE-FRONTED AMAZON

Recommended list: 2
[Possible problem]

Amazona aestiva (Linné, 1758)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Occurs from the interior of north-eastern Brazil southwards to the eastern half of Bolivia and south through Paraguay to northern Argentina. Said to be common in central Brazil, although population declines have recently been reported. There are conflicting accounts from Argentina where one report states that it is still common but others claim that it is continuously declining in numbers. Lives in small groups and feeds in trees, mainly on fruit. Has been reported to attack crops. Inhabits gallery forests, forest edge and open savannahs with trees. Favoured as a pet, and considered to be a "good talker", being collected in large numbers for this purpose, both for export and internal use. Suffering from permanent habitat destruction in Argentina.

There has been a substantial increase in trade, from 10 644 in 1981 to 47 492 in 1985, the great majority of which originated in Argentina. The main importers were the USA and F.R. Germany. Exports from all range countries except Argentina are now prohibited, although Bolivia permitted regulated exports until 1 May 1984.

The high and increasing levels of exports from Argentina are of some concern in view of the unconfirmed report that there are population declines throughout range of the species in the country. Until recently there were thought to be no problems with the Brazilian subspecies, *A. a. aestiva*, but a report in 1985 of population declines needs to be investigated.

DISTRIBUTION Ranges from interior of north-eastern Brazil southwards to the eastern half of Bolivia and south through Paraguay to northern Argentina (Ridgely, 1982). Two subspecies are recognised:

A. a. aestiva (Linné)

Brazil Eastern Brazil from Piauí south through Pernambuco, Bahia, Minas Gerais and Goiás to Rio Grande do Sul, western Paraná and south-eastern Mato Grosso. Absent from coastal regions (Forshaw and Cooper, 1978; Darrieu, 1983; Sick, 1984). Belton (1984) pointed out that there were no specimens from Rio Grande do Sul and no recent records. Intergrades with *A. a. xanthopteryx* in central-southern Mato Grosso and western Paraná (Darrieu, 1983).

Paraguay Said to intergrade with *A. a. xanthopteryx* in eastern Paraguay (Short, 1975).

A. a. xanthopteryx (Berlepsch):

Argentina Recorded from the north of the country in the provinces of Salta, Jujuy, Formosa, Tucumán, Chaco, Misiones, north-east and central Corrientes, north Santa Fe (Darrieu, 1983), Córdoba (Nores and Yzurieta, 1983) and occasionally northern Buenos Aires (Forshaw and Cooper, 1978).

Bolivia From the foothills of the Andes to the eastern border. Recorded from Bermejo, Fortín Campero, Samaipata, Lagunillas (Bond and Meyer de Schauensee, 1943) and around Tiguipa (Remsen et al., 1986). Recorded from Tatarendá and Colonia Crevaux, Santa Cruz (Lönnberg, 1903).

Amazona aestiva

Brazil Extreme south of Mato Grosso and possible western Parana, where it may intergrade with *A. a. aestiva* (Darrieu, 1983).

Paraguay Distributed throughout the country (Ridgely, 1982). In the east and Misiones it intergrades with *A. a. aestiva* (Short, 1975).

POPULATION Ridgely (1982) described it as generally fairly common to common over much of its range.

Argentina Said to be declining in numbers throughout the country as a result of persecution and habitat destruction (Argentina CITES MA, March 1986). It was said to be very scarce in Cordoba (Nores and Yzurieta, 1983). However, Ridgely (1982) thought that it was still common to locally very common across much of the chaco, particularly towards the more lushly-vegetated westward fringe. In June 1986, at the CITES Technical Committee meeting, the Argentina MA representative pointed out, in apparent contradiction of their earlier written comments, that the species was considered a pest in their country and was listed as harmful species under their legislation. Bucher and Martella (1988) maintain that, at least in eastern Salta Province, the population of this species has undergone a drastic decline recently, due to habitat destruction and intensive exploitation.

Bolivia Observed in flocks of several hundreds in south-eastern Santa Cruz (Lönnerberg, 1903). Said to be very common throughout the Chaco (Eisentraut, 1935, see Forshaw and Cooper, 1978). More recently described as common and widespread over most of its range, and still relatively numerous near many towns and in many partially settled regions; apparently little or no overall decline (Ridgely, 1982).

Brazil Said to be "generally common" in Brazil, and to be "no problem" (Ridgely, 1979). Scott and Brooke (1985) found it to be quite common in south-eastern Brazil in the Poco das Antas Biological Reserve, Rio de Janeiro, and Sick (1984) found that it was frequent in the interior of Brazil. There are no recent records from Rio Grande do Sul (Belton, 1984). Roth (*in litt.*, 17 December 1985) said that populations were declining in large parts of its range.

Paraguay In 1930 it was reported to be common at Fort Wheeler in the Chaco and abundant at Descalvados (Naumburg, 1930). Common in the chaco of the west; fairly common to locally common eastwards from the Paraguay River; no declines evident (Ridgely, 1982).

HABITAT AND ECOLOGY Found from lowland areas to intermontane valleys in the Andes up to 1600 m (Ridgely, 1981). Olrog (1984) reports it to be characteristic of savannahs in Argentina. Scott and Brooke (1985) also found it in established secondary forest and in riverine and swampy forest. Sick (1984) describes it as occurring in both humid and dry terrain. In Brazil it favours gallery forest, deciduous woodland and semi-open or forest edge areas (Ridgely, 1979).

It is usually seen in pairs or small groups, but in the non-breeding season may assemble in large, noisy and conspicuous roosts (Ridgely, 1980). It feeds entirely in trees (Short, 1975), on fruits, berries, seeds, nuts, blossoms and leaf buds. May attack crops, causing considerable damage (Forshaw and Cooper, 1978). Nesting usually takes place in holes in trees, and has been recorded in September in Paraguay, with clutches of 2 to 3 eggs (Naumburg, 1930). In eastern Bolivia nesting on cliffs has also been reported (Ridgely, 1982).

THREATS TO SURVIVAL There has been large-scale habitat disturbance over much of its range and trade has also been considerable (Ridgely, 1981).

Argentina Said to be suffering from direct human persecution and permanent habitat destruction (Argentina CITES MA, 1986).

Bolivia No information.

Brazil It is the most popular parrot in Brazil as a cage bird (P. Roth, *in litt.*, 17 December 1985), being considered a "good talker" (Ridgely, 1979). Ridgely (1979) considered that this form of exploitation did not appear to have seriously affected its numbers, although he recommended vigilance in future (Ridgely, 1981). However Roth reported population declines in 1985.

Paraguay Many thousands were reported as having been exported annually from Paraguay (Ridgely, 1979), but is likely that this has now largely ceased.

INTERNATIONAL TRADE CITES reports indicate that the minimum net trade in this species increased steadily from 10 644 in 1981 to 47 492 in 1985 (Table 1). The great majority of these were reported as originating in Argentina with lesser numbers from Bolivia (Table 2). The major importers were the USA, F.R. Germany, Japan, Netherlands, Canada, Italy, Sweden, France and Spain all of which have imported over 1000 birds in one of the years from 1981 to 1985 (Table 1).

Export figures supplied by the Santa Cruz regional wildlife management authority show that the total number of *A. aestiva* exported from Bolivia from 1980 to 1983 was 23601.

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information was extracted from Fuller *et al.*, (1987).

Argentina Considered a harmful species and therefore excluded from a general ban on trade in wildlife under Resolution No. 62 of 14 March 1986 (CITES Notification to the Parties No. 412, 28 November 1986).

Bolivia Listed as a regulated species under Decreto Supremo No. 11251 in 1973, although export of some of these species has been authorised. All exports of live wildlife were prohibited in 1984.

Brazil All exports of wildlife have been prohibited since 1967.

Paraguay All exports of wildlife have been prohibited since 1975.

CAPTIVE BREEDING Since the 1970s this species has reared young on very many occasions in collections throughout the world (Low, 1986a).

*Amazona aestiva*Table 1. Minimum net imports of live *A. aestiva* reported to CITES.

	1981	1982	1983	1984	1985
Austria	-	86	-	285	300
Bahamas	-	-	6	-	-
Bahrain	-	-	-	3	1
Belgium	18	-	-	498	-
Canada	15	162	1098	219	717
Cayman Islands	-	-	-	-	11
Chile	-	-	1	9	-
China	-	44	-	70	-
Cyprus	-	-	-	5	2
Denmark	-	99	232	480	469
France	12	115	124	370	2611
Germany, F.R.	2105	6824	6867	9655	9230
Greece	-	-	-	-	85
Greenland	-	-	-	-	1
Hong Kong	816	-	1	100	321
Hungary	-	-	-	-	100
Israel	-	-	-	-	21
Italy	-	930	1450	307	540
Japan	375	1150	1777	1493	1740
Jordan	-	-	-	3	-
Korea	-	-	-	7	-
Kuwait	-	-	-	286	203
Libya	-	-	-	-	1
Malaysia	-	-	-	-	44
Malta	-	-	-	-	80
Namibia	-	-	-	-	2
Netherlands	20	1052	100	443	-
Oman	-	1	-	1	-
Poland	-	-	-	-	10
Portugal	20	-	-	10	6
Qatar	-	-	-	3	35
Saudi Arabia	-	-	-	766	1412
Singapore	-	-	-	100	100
South Africa	25	16	127	15	-
Spain	34	470	327	673	1743
Sweden	-	406	817	1007	314
Switzerland	40	196	60	87	33
Taiwan	20	-	-	196	1
Thailand	-	-	-	5	-
UAE	-	-	-	17	46
UK	118	94	204	1	658
USA	6526	15451	20205	20019	26643
			+351 bodies		
USSR	-	-	-	-	3
Unknown	500	-	-	99	-
TOTAL	10 644	27 096	33 396	37 232	47 492
			+351 bodies		

Table 2. Reported countries of origin or export for exports of live *A. aestiva* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. aestiva</i>					
Argentina	5533	21227	29308	35777	46766
Bolivia	-	-	+305 bodies	1371	53
Brazil	4141	5661	4017	7	4
Paraguay	3	10	4	1	-
	861	1	3		
Countries without populations of <i>A. aestiva</i>					
Belgium	-	-	125	-	-
Canada	-	1	-	-	-
Denmark	-	1	-	-	-
Ecuador	1	-	-	-	-
El Salvador	-	-	-	-	3
Germany, F.R.	-	-	-	1	1
Ghana	-	-	-	15	-
Guyana	-	2	-	25	10
Honduras	5	-	-	56	1
Hong Kong	-	-	1	-	-
Japan	-	-	2	-	-
Netherlands	-	-	-	1*	-
Peru	100	1	-	1	-
Portugal	-	-	1	-	-
South Africa	12	-	1	-	1810
Sweden	-	-	-	1	17
Taiwan	-	-	-	4	-
UK	-	1*	2	-	1
USA	-	-	57	12	-
Uruguay	-	-	-	1	-
USSR	-	-	-	4*	-
Venezuela	-	1	-	2	-
Unknown	-	295	3	17	56

WHITE-FRONTED PARROT
WHITE-FRONTED AMAZON

Recommended list: 3
[No problem]

Amazona albifrons (Sparrman, 1788)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS The species comprises three subspecies and occurs in Mexico, Guatemala, Belize, Honduras, El Salvador, Nicaragua and Costa Rica. In 1980 it was considered to be common and very conspicuous over much of its range. Most references to specific areas within its range describe it as common, except for those from Belize where it was considered uncommon in 1964 and El Salvador where it has apparently declined in recent years. Inhabits semi-open and scrub woodland, savannas, gallery woodland and edges of more humid forest.

The recorded trade during 1981-85 ranged from 1198 in 1983 to 4577 in 1985. In 1981 most originated in Mexico, in 1983 and 1984 Honduras was virtually the only exporter, but in 1985 both Guatemala and El Salvador also exported moderate numbers. The species is protected in Belize, Costa Rica and Guatemala; in Mexico commercial trade has been banned since 20 September, 1982. Honduras allows exports under a quota system.

It is unlikely that the present level of trade is affecting populations of this species.

DISTRIBUTION Found from north-western Mexico south through Guatemala, Belize, Honduras, El Salvador and Nicaragua to north-western Costa Rica (Ridgely, 1982).

A. a. albifrons (Sparrman): central-western Mexico to Pacific lowlands of Guatemala (Land, 1970).

Guatemala Confined to the western Pacific lowland and subtropics (Land, 1970).

Mexico Recorded in Nayarit, Jalisco, Colima, Michoacan, Guerrero, Oaxaca and southern Chiapas (Ridgely, 1982).

A. a. saltuensis Nelson: confined to Sinaloa, western Durango and southern Sonora, north-western Mexico (Blake, 1953). Found south of 28° in Sonora, northernmost records being from Guaymas and Quiriego, numerous records from further south (van Rossem, 1945). Sonora (Camoá, Alamos, Sierra de Alamos, Quiriego, Batamotal) (Ridgely, 1916).

A. a. nana W. deW. Miller: south-eastern Veracruz south to Costa Rica (Land, 1970). Forshaw and Cooper (1978) believed this to be a poorly differentiated subspecies.

Belize Recorded at Big Falls Ranch and in the Salamanca area (Jenkins, 1981), near Manatee Lagoon (Ridgely, 1916), at Corozal, Pomona, Hill Bank and Gallon Jug (Russell, 1964).

Costa Rica Confined to the Pacific north-west, mainly on the slopes of the Guanacaste Cordillera, but also south of the Gulf of Nicoya. Apparently absent from the central plateau and southern shore of Lake Nicaragua (Slud, 1964). Recorded from Volcan de Miravalles, Tenorio, Desmonte, Bebedero, Nicoya, Liberia, San Mateo (Ridgely, 1916).

El Salvador Widespread in the lowlands (Dickey and van Rossem, 1938).

Guatemala Found in the northern Peten lowlands, the south-east Pacific lowlands and arid interior, apparently absent from the humid Caribbean lowlands (Land, 1970). Recorded from Gualan, Rio Managua, Rio Montagua, Rio Chiguente, Retalhuleu, Naranjo, Aguas Calientes, Volcan de Fuego, Zacapa, San José (Ridgway, 1916).

Honduras Inhabits the arid Pacific lowlands and arid interior below 1800 m, and the arid and sometimes more humid areas of the interior valleys and the Caribbean lowlands (Monroe, 1968). Recorded from Chasinguas, Chamelicon, San Pedro, Yojoa (Ridgway, 1916).

Mexico Chiapas (Tonala, Palenque); Campeche (Apazote); Yucatan (Mérida, Calotmul, Tunkas, Izamal, Citilpech, Buctzotz, Chichen-Itza) (Ridgway, 1916); Tabasco; the arid portions of south-eastern Veracruz (Blake, 1953); and Quintana Roo (Edwards, 1972).

Nicaragua Matagalpa, Ocotal, Sucuya, San Rafael del Norte, San Juan del Sur, La Libertad (Ridgway, 1916). Recorded widely from the Pacific slope (Ridgely, 1982).

POPULATION Common and very conspicuous over most of its range. It and *Aratinga canicularis* are easily the two most numerous parrots on the Pacific slope of Central America. Neither appears to have declined appreciably, and *A. albifrons* may even be increasing locally on the Caribbean slope, having benefitted from forest clearance (Ridgely, 1981).

Belize Said to be uncommon (Russell, 1964). Only small numbers of this species were seen by the Royal Air Force Belize Expedition (Jenkins, 1981).

Costa Rica Said to be plentiful on the deforested slopes of the Guanacaste Cordillera, but less numerous south of the head of the Gulf of Nicoya (Slud, 1964). Stiles (1983) reported it to be an abundant permanent resident of the Palo Verde and Santa Rosa reserves.

El Salvador Dickey and van Rossem (1938) described it as generally common and locally abundant but only in spring and summer. Visitors to the arid lower tropical zone. Now reduced in numbers (Thurber, 1978) and not recorded during any recent Christmas bird counts (Ridgely, 1982).

Guatemala Said to resident and fairly common (Land, 1970). Land (1962) noted them daily during July and August in the foothills of the Sierra de las Minas, but did not see them in the dry winter months.

Honduras Said to be generally the most frequently observed small parrot wherever it occurs (Monroe, 1968). Described as relatively abundant, being most numerous between 15° and 15°30' N (Honduras CITES MA, 1985).

Mexico Blake (1953) described it as very common in the dry parts of both coastal slopes, but Edwards (1972) said it was common only in the Pacific region and rather rare elsewhere. Binford (1968, see Forshaw and Cooper, 1978) described it as a common permanent resident along the entire Pacific slope of Oaxaca, and north to Matias Romero in the Caribbean region. Lewis (1971, see Forshaw and Cooper, 1978) found it to be common in parts of Nayarit. Said to be a common, breeding resident south of 28° in Sonora (van Rossem, 1945); small groups were observed almost daily in the state by Short (1974).

Nicaragua In recent years estimates have been made of the populations of two areas in the Pacific region: Momotombo (38.67 km²) - 706; Zapatera

Amazona albifrons

Island - 3870 (Morales, 1987).

HABITAT AND ECOLOGY Found chiefly in arid portions of Pacific and Caribbean lowlands (Blake, 1953) dry woodland and secondary growth (Land, 1970). Ridgely (1981) listed its habitats as semi-open scrub woodland, savannas with scattered large trees, gallery woodland and along the edge of more humid forest. Peterson and Chalif (1973) reported it to occur in humid forests in lower Yucatan and in Costa Rica, Stiles (1983) reported it to occur in tropical deciduous forest canopy and along the forest edge. Usually seen in pairs or small groups during the day, but these often congregate into flocks of several hundreds or even thousands to roost. Seasonal movements have been reported in some regions. Feeds on fruits, nuts, seeds, berries, blossoms and probably leaf buds, procured in trees. Can be troublesome in corn-growing districts, feeding on ripening grain. Very little is known of the breeding habits (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL This species is thought to have benefitted from forest clearance, which may even have caused population increases in some areas. Despite extensive trade, much of it probably illegal, there appears to have been no appreciable impact on wild populations; however this could begin to change, particularly in Mexico (Ridgely, 1981). In Honduras it is in less demand as a pet than other parrots (Honduras CITES MA, 1985).

INTERNATIONAL TRADE Minimum net imports reported to CITES, which averaged 2300 per year from 1981 to 1985, increased to a peak of 4577 in 1985. The main importing countries were the USA and F.R. Germany (Table 1). Since 1982, most of the exports have been from Honduras, Guatemala and El Salvador, although prior to that there were appreciable quantities from Mexico (Table 2).

Exports from Nicaragua, reported by Morales (1987), involved very small numbers until 1986: 1981 - 10; 1982 - 4; 1983 - 9; 1984 - 0; 1985 - 4; 1986 - 168.

CONSERVATION MEASURES All of the range states except Mexico are Parties to CITES. The following information was extracted from Fuller et al., (1987).

Belize A seven-year moratorium on commercial trade in wildlife was imposed in 1981. All except six species of birds are protected from hunting.

Costa Rica All commercial hunting, trade and export of non-marine wildlife has been prohibited since 1970, except for injurious species or captive-bred animals.

El Salvador The species is not protected in El Salvador.

Guatemala All capture and export was temporarily suspended on 24 March 1986 (CITES Notification to the Parties No. 386, 7 May 1986).

Honduras The export of most wildlife is prohibited, except for certain species, including *A. albifrons*, for which quotas are set every three months. There is no indication of what the quotas are, but they are said to have been substantial in recent years.

Mexico Not a Party to CITES. Commercial export and import of most wildlife has been prohibited since 20 September 1982.

Nicaragua Commercial hunting, export and import of most wildlife has been prohibited since 1977. Export of parrots as personal pets may be permitted.

Amazona albifrons

CAPTIVE BREEDING This species is common in captivity (Ridgely, 1981), and has bred, although little has been recorded on the subject (Low, 1986a).

Table 1. Minimum net imports of live *A. albifrons* reported to CITES

	1981	1982	1983	1984	1985
Brazil	-	-	-	-	2
Canada	-	8	2	10	20
German D.R.	-	-	-	-	2
Germany, F.R.	38	77	-	-	151
Japan	-	-	-	-	5
Hong Kong	-	-	-	-	150
Norway	-	2	-	-	-
Panama	1	-	-	-	-
Puerto Rico	-	-	-	-	1
Singapore	-	-	-	-	87
Sweden	-	-	-	-	270*
Switzerland	2	-	-	-	-
UK	-	51	-	-	-
USA	1187	1861	1196	2265	3888
USSR	-	-	-	-	1
TOTAL	1288	1999	1198	2275	4577

Table 2. Reported countries of origin or export for exports of live *A. albifrons* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. albifrons</i>					
Belize	-	2	-	1	-
Costa Rica	-	4	-	-	-
El Salvador	-	-	-	-	129
Guatemala	2	-	1	1	917
Honduras	287	1707	1194	2256	3253
Mexico	935	282	1	-	2
Nicaragua	-	-	-	-	5
Countries without wild populations of <i>A. albifrons</i>					
Argentina	-	-	2	9	-
Brazil	-	-	-	8	-
Netherlands	-	-	-	-	270*

* = captive bred

ORANGE-WINGED PARROT
ORANGE-WINGED AMAZON

Recommended list: 2
[Possible problem]

Amazona amazonica (Linné, 1766)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS The species comprises two subspecies and occurs in Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname, French Guiana and Trinidad and Tobago. In 1980 it was considered to be common and conspicuous over virtually all of its range, and least numerous in parts of the upper Amazon basin. Most references to specific areas within its range also describe it as common, except in Peru and Bolivia where it was described as uncommon in 1982. Inhabits varzea forest, secondary growth along the larger rivers, gallery forest, lighter broken woodland, clearings and even the outskirts of towns and large cities.

The recorded trade during 1981-85 showed an increase from 10 633 in 1981 to 18 398 in 1984, with a reduction to 13 977 in 1985. Nearly all originated in Guyana with only small numbers from Suriname and other countries. The species is protected in Colombia and Venezuela. Export is banned in Brazil, Ecuador, Peru and (from 1 May, 1984) Bolivia, and trade is regulated in Guyana and Suriname. In Trinidad and Tobago it is classified as a pest because of its reputation for attacking cocoa plantations.

The current level of trade may be cause for concern as far as trade from Guyana is concerned. Exports from that country increased by at least 335% from 1978 to 1984 and the lack of surveys to obtain quantitative data means that it is not possible to establish whether the trade is having an effect on the population of the country.

DISTRIBUTION Northern and central South America; principally east of the Andes, occurring west of them only in northern Colombia. From Venezuela and Colombia south over the entire Amazon basin to northern Bolivia, and east locally across much of Brazil to include the coastal south-east, south to Parana. It is also found on Trinidad and Tobago (Ridgely, 1981). Introduced unsuccessfully in the Miami area of Florida, USA, not thought to have become established (Long, 1981). Two subspecies are recognised by Forshaw and Cooper (1978); a third, *micra* from the Guianas, has been treated as a synonym of *amazonica*.

A. a. amazonica

Bolivia Mercado (1985) reported it to occur in tropical forest, Sabanas and Yungas in the north and north-east of the country. Found in Tarija, Santa Cruz and Cochabamba (Bond and Meyer de Schauensee, 1943). West (1979) reported it to occur in Pando, Beni, La Paz and Santa Cruz. Recently recorded near the Rio Mamoré in Beni, northern Bolivia (Remsen *et al.*, 1986).

Brazil Recorded over all of Amazonian and north-eastern Brazil south to central Mato Grosso, western Sao Paulo and extreme northern Parana along the upper Rio Parana, and south along the Atlantic coast through Espirito Santo and eastern Minas Gerais to Rio de Janeiro (Ridgely, 1982). Naumburg (1930) described the species as occurring in Mato Grosso (Cuyaba, Villa Maria, Cachoeira da Bananeira, Porto da Faya), Goias (Estrella, Catalao, Araguaya); Sao Paulo (Itapura); Rio de Janeiro (Sepotuba); Piaui (Santa Philomena, Rio Parnahyba); Valle do Amazonas; Rio Negro; Borba; Para; Ilha das Oncas; Marajo (Pindobal, Pacoval); Mexiana; Amapa and Rio Jamauchim. Listed as an inhabitant of Roraima and adjacent areas (Moskovits *et al.*, 1985).

Colombia Tropical zone of the north of the country from the Sinu Valley east to the western base of the Santa Marta Mountains and south to the middle Magdalena Valley (Pto. Berrio); also probably throughout the country east of the Andes but details unknown in the extreme east (Hilty and Brown, 1986).

Ecuador Widespread in the tropical zone of the east of the country (Butler, 1979; Ridgely, 1982).

French Guiana Included in a collection of the birds of Cayenne (French Guiana) (Berlepsch, 1908). Apparently widespread (Ridgely, 1982).

Guyana Widespread in lowland forests; Georgetown (including the botanical gardens), and along coastal rivers from NWD; inland in Bartica, Mazaruni River, Rockstone and the Rupununi River (Snyder, 1966).

Peru Found at Yarinacocha, near Pucallpa, Loreto north-east Peru (Traylor, 1958). Recorded widely from the north-east, south to at least the Pucallpa area in southern Loreto, but apparently not definitely in the south-east (Ridgely, 1982).

Suriname Found in both coastal and interior regions (Haverschmidt, 1968). Always present at Coeroeni Airstrip, Nickerie south-western Suriname (Scharringa, 1974). Donahue and Pierson (1982) reported it to occur in the Raleigh Falls/Voltzberg National Park and the Brownsberg Nature Park.

Venezuela Found in the tropical zone, although not recorded in Zulia or Mérida in the north-west (Meyer de Schauensee and Phelps, 1978).

A. a. tobagensis Cory, 1918. Known only from Trinidad and Tobago (Ffrench, 1973).

POPULATION Ridgely (1981) summarised its overall status as common and conspicuous over virtually all of its range, thriving in disturbed habitats so long as it is not persecuted too severely; least numerous regionally in the upper Amazon basin, where suitable habitat is limited, but even there it is numerous along larger rivers.

Bolivia Not precisely known, but seemingly uncommon and apparently very local (Ridgely, 1982).

Brazil Ranges from uncommon (Sooretama) to frequent (Poco das Antas) in south-eastern Brazil (Scott and Brooke, 1985); Sick (1984) says it is common in Amazonian Brazil. Still common to abundant in large areas of its range (Roth, D. *in litt.*, 17 December, 1985). Described as common at Alaraca and adjacent areas, Território de Roraima Brazil (Moskovits *et al.*, 1985). Common in 1984 in a reserve at Linhares, Espírito Santo eastern Brazil (Scott, 1985). Locally very common, for example around Belém and Manaus (Ridgely, 1979).

Colombia Meyer de Schauensee (1964) described it as widespread and fairly numerous in Colombia. Todd and Carriker (1922) regarded it as common around Ciénaga Grande de Santa Marta in the north-east. Most recently it has been regarded as locally fairly common (Hilty and Brown, 1986).

Ecuador Frequently seen in eastern Ecuador (Butler, 1979) and regarded as common along larger rivers of the east (Ridgely, 1982).

French Guiana No information.

Guyana Considered by Snyder (1966) to be widespread and abundant in lowland forests and along rivers. Forshaw found it to be still plentiful in Guyana

Amazona amazonica

during his visit there in 1971 (Forshaw and Cooper, 1978). The most plentiful amazon in the country according to Niles (1981). Ridgely (1982) found it less numerous in the more continuously forested interior of the Guianas.

Peru Listed as uncommon in Peru (Parker et al., 1982). Described as fairly common to locally common (O'Neill, 1981). Ridgely (1982) found it to be common in the north-east, but somewhat less numerous southward.

Suriname Haverschmidt (1968) reported it to be the most numerous of parrots found in Suriname although reduced in number by incessant shooting at evening flights. Donahue and Pierson (1982) described it as common.

Trinidad and Tobago Herklots (1961) said the species occurred in the thousands on Trinidad and was plentiful on Tobago. Junge and Mees (1958) described the species as common in lowland forests and found in smaller numbers in the hills. Ffrench (1973) reported it to be a common resident in both islands, found throughout most areas of Trinidad, but more confined to hill-forest and cultivated slopes in Tobago.

Venezuela Common and widespread in semi-open areas (Ridgely, 1982).

HABITAT AND ECOLOGY. Generally avoids humid tierra firma forest, but occurs in virtually any other habitat that has large trees. In the Amazon basin it is reportedly found mostly in varzea forest and secondary growth along the larger rivers, however elsewhere it is more widespread in semi-open terrain (gallery forest and lighter broken woodland) and clearings, even on the outskirts of towns and large cities. Rarely found much above altitudes of 500 m (Ridgely, 1981) and mostly found below 100 m (Scott and Brooke, 1985). An extremely gregarious species, food is procured in the treetops and consists of fruits, seeds, nuts, berries, blossoms and leaf buds (Forshaw and Cooper, 1978). Described as a pest of cultivated fruits, particularly oranges and mangos, in Guyana (Poonai, 1969) and of cocoa plantations in Trinidad and Tobago (Ffrench, 1973). The normal clutch is two to three eggs, incubated by the female for approximately three weeks. After hatching the young remain in the nest for two months (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Reportedly tolerant of some deforestation, apparently thriving in disturbed situations (Ridgely, 1981). Large numbers have been exported for the pet trade, however this has not been described as a severe threat to wild populations in any of the countries of origin. Favoured as a cage bird in many of the countries of origin, though not regarded as good a talker as *A. aestiva* or *A. ochrocephala* (Ridgely, 1979).

Bolivia None known.

Brazil Less popular than *A. aestiva* but also taken from nests in substantial numbers. Seems to tolerate a certain degree of habitat alteration (Roth, D. *in litt.*, 17 December 1985).

Colombia None known.

Ecuador None known.

French Guiana None known.

Guyana Habitat destruction is not yet an important threat. This species was the psittacine most commonly exported from Guyana in the late 1970s, 5317 and 8671 having been exported in 1978 and 1979 respectively, however this level of trade was not thought to adversely affect the wild population (Niles, 1981).

Peru Locally sought for pets but otherwise not in peril (O'Neill, 1981).

Suriname Incessant shooting at evening flights was thought to have reduced the population size (Haverschmidt, 1968).

Trinidad and Tobago Known to damage cocoa crops in some cases, however it was reported to be most commonly hunted for the cage-bird trade (Ffrench, 1973).

Venezuela None known.

INTERNATIONAL TRADE Common in captivity, this amazon has been exported in large numbers (Ridgely, 1981). Listed in CITES Appendix II in 1981.

Table 1. Minimum net imports of live *A. amazonica* reported to CITES

	1981	1982	1983	1984	1985
Algeria	-	-	-	3	-
Bahrain	-	-	-	-	10
Belgium	-	-	-	557	321
Canada	195	37	370	331	62
Cayman Islands	-	-	-	-	1
Cyprus	-	-	-	-	3
Czechoslovakia	-	-	-	-	6
Denmark	-	-	2	-	498
Dominica	-	-	-	-	5
Egypt	-	-	-	-	6
France	-	-	-	252	-
French Guiana	-	-	-	-	1
German D.R.	-	-	2	-	-
Germany, F.R.	647	1377	954	2569	1434
Israel	-	-	-	-	10
Italy	-	50	-	250	1
Japan	-	-	-	-	25
Jordan	-	-	-	5	-
Kenya	-	-	-	-	1
Kuwait	-	-	-	19	16
Netherlands Antilles	-	2	-	6	1
Netherlands	-	130	299	1539	4796
Oman	-	-	-	4	-
Pakistan	-	-	-	-	2
Qatar	-	-	-	-	8
Saudi Arabia	-	-	-	17	375
Singapore	-	-	-	-	3
South Africa	-	-	20	115	-
Spain	-	1	-	-	1
Sri Lanka	-	-	-	-	2
Sweden	-	24	236	-	70
Switzerland	5	14	-	8	-
UAE	-	-	-	-	7
UK	100	875	112	822	524
USA	9592	9621	11602	11901	5565
USSR	-	-	-	-	218
Unknown	94	-	-	-	-
TOTAL	10633	12131	13597	18398	13977

Amazona amazonica

The number of birds recorded in trade each year increased steadily from 1981 to 1984, but then was reduced again in 1985. The average trade over this period can be estimated to have been 13 747 birds per year. The vast majority of these birds were imported by the United States although Canada, the Federal Republic of Germany, Netherlands and the United Kingdom also imported significant numbers.

Table 2. Reported countries of origin or export for exports of live *A. amazonica* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. amazonica</i>					
Bolivia	-	21	2	5	-
Brazil	-	-	-	1	1
Colombia	-	1	7	5	6
Ecuador	206	18	-	102	26
Guyana	10321	12060	13239	17836	13159
Peru	-	-	2	-	-
Suriname	94	136	304	393	768
Trinidad & Tobago	-	1	9	7	8
Venezuela	-	5	20	2	8
Countries without wild populations of <i>A. amazonica</i>					
Belgium	-	-	10	-	-
Dominican Republic	-	-	1	-	-
German D.R.	-	-	-	72	-
Germany, F.R.	-	-	-	3	-
Ghana	-	-	-	60	-
Kuwait	-	-	-	1	-
Netherlands	-	-	-	-	7*
Sweden	-	-	60	-	-
USA	-	-	64	20	-
Zimbabwe	-	-	4*	-	-
Unknown	13	2	3	6	4

* captive-bred

Guyana was the source of nearly all of the birds recorded in trade. Ecuador and Suriname were the only other countries reported to have exported more than 100 birds in any one year (Table 2). The number of birds reported to have been exported from Guyana increased from 10 321 in 1981 to 17 836 in 1984, but then decreased to 13 159 in 1985. This level of export is considerably higher than that reported for 1978 and 1979 (5317 and 8671 birds respectively) (Niles, 1981) and on the evidence of these data it would seem that the number of birds of this species exported from Guyana increased steadily from 1978 to 1984. An export quota system operates in Guyana (Niles, 1981; Thomsen, 1988).

Very few of the birds recorded in trade were reported to have been bred in captivity; most of the birds exported by countries without wild populations were probably re-exports.

CONSERVATION MEASURES All of the range countries are Parties to CITES. Information below is from Fuller et al., (1987) unless otherwise indicated.

Bolivia All exports of live wildlife have been prohibited since 1 May 1984.

Brazil All wildlife exports have been banned since 1967.

Colombia Commercial hunting of all birds has been prohibited since 1973.

Ecuador All exports of indigenous wildlife have been prohibited since 1 January 1983, except for educational or scientific purposes.

French Guiana Covered by CITES controls as an overseas department of France. From May 1986 purchase and sale of non-domestic native species has been prohibited.

Guyana Parrots are not protected in Guyana but are open for exploitation for the local and overseas pet trade. The numbers exported are controlled by export quotas; however the quotas are not determined on precise quantitative surveys (Niles, 1981). The 1987/88 quota is 17 500 (Thomsen, 1988).

Peru All commercial hunting of wildlife in the Selva region, east of the Andes, has been prohibited since 1982. The species is not included in the list of parrots allowed for export (CITES Notification to the Parties No. 389, 7 May 1986).

Suriname Since 1970, hunting and trade of native birds and mammals has been prohibited except for listed game or domestic species. *A. amazonica* is listed as a game species, which means that hunting is permitted during open seasons. An annual export quota of 1424 was established for 1987 (Thomsen, 1988).

Trinidad and Tobago Classified as a pest species by the Conservation Ordinance.

Venezuela With few exceptions, all hunting of indigenous wildlife has been prohibited since 1970.

CAPTIVE BREEDING There are few records of this species breeding in captivity, perhaps because it is common and few breeders have bothered to record their success (Low, 1986a).

RED-LORED PARROT
RED-LORED AMAZON

Recommended list: 2
[Possible problem]

Amazona autumnalis Linné 1758

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Fairly widely distributed in Central America and north-western South America, from the Caribbean slope of southern Tamaulipas, Mexico south through Guatemala, Belize, Honduras, Nicaragua, both slopes of Costa Rica and Panama, to the extreme north-west of Venezuela, western Colombia and western Ecuador, north of the Gulf of Guayaquil. An isolated race occurs in Amazonas, north-western Brazil from the east of the lower Rio Negro along the north side of the upper Amazon. Four subspecies are recognised. An inhabitant of humid lowland and foothill forest, mangrove swamps and secondary forest; it has been described as fairly common over much of its range, except in Ecuador and north-east Mexico, where populations have declined. No recent status information has been obtained from Nicaragua. Populations may have declined locally in some parts of the range of the species in recent years, mainly due to habitat destruction.

Recorded trade varied from 967 birds in 1981 to 7465 in 1984. The vast majority apparently originated in Honduras, although Ecuador was a major supplier in 1984 and Guatemala was important in 1985; an average of 90% of the birds in trade each year were imported by the United States. The species is protected in Colombia, Costa Rica, Guatemala and Venezuela. Commercial trade or export is banned from all of the countries with wild populations except Honduras and Panama.

This species is apparently generally quite common and widespread and it seems unlikely that the reported level of international trade is a significant threat to its survival. Trade from Mexico has been described in the past as a threat to local populations of the species, however very little was reported from that source during 1981 to 1984. There is little evidence that the species has declined in Honduras, although the rapidly increasing level of exports may soon alter this. The quota system in Honduras requires clarification. The imports from Ecuador, reported by the United States, require further investigation as all wildlife exports from Ecuador have been banned since 1983. This trade from Ecuador was not included in a separate compilation of US trade data, so it is possible that its inclusion in the US Annual Report to CITES was a mistake. If not, such illegal trade could be a serious threat to *A. a. lilacina* which is largely restricted to Ecuador and has been reported to have declined greatly due to habitat destruction and illegal capture.

DISTRIBUTION Central America from eastern Mexico south to the Amazon basin and western Ecuador. Four subspecies are generally recognised.

A. a. autumnalis

Belize Widely distributed in most areas of the country (Russell, 1964).

Guatemala Found in the Caribbean lowlands and Petén (Land, 1970).

Honduras Widespread in lowland rainforest and some open, less humid parts of the Caribbean slope valleys up to about 1100 m. Reported to occur on Roatan and Barbareta and possibly Utila, Bay Islands (Monroe, 1968).

Mexico Eastern and southern lowlands from southern Tamaulipas and eastern San Luis Potosi south and east to Veracruz, northern Oaxaca, Tabasco, Chiapas,

southern Campeche and the extreme south of Quintana Roo (Peterson and Chalif, 1973).

Nicaragua Northern areas on the Caribbean slope intergrading with *salvini* in the north-east (Howell, 1957).

A. a. salvini (Salvadori, 1891)

Colombia Found in northern and western areas from the Panama border in Choco, east across the northern base of the Andes to the lower and middle Magdalena valley (south to Puerto Berrio in eastern Antioquia); on the Pacific slope recorded south in the Choco only to the Baudo Mountains (Hilty and Brown, 1986; Ridgely, 1982).

Costa Rica Found throughout humid tropical lowlands on both slopes, although absent from the dry-forested north-west of the country (Slud, 1964). Stiles (1983) reported it as occurring in La Selva and vicinity, the Osa peninsula, Las Cruces and vicinity and Monteverde district.

Nicaragua Found in the south-east of the country (Forshaw and Cooper, 1978), intergrading with the nominate subspecies to the north (Howell, 1957).

Panama Found in forest and humid woodland in lowlands and foothills on both slopes, though absent from drier areas on the eastern side of the Azuero peninsula, southern Coclé, and western Panama province (Ridgely, 1976); found also on Coiba Island, the larger Pearl Islands (San José, Pedro Gonzalez, del Rey, Canas, Santelmo) and Escudo de Veraguas (Wetmore, 1968).

Venezuela Rio Negro, Sierra de Perija, Zulia in the north-west of the country (Meyer de Schauensee and Phelps, 1978), and the Rio Catatumbo area in the Maracaibo basin (Ridgely, 1982).

A. a. lilacina (Lesson, 1844)

Colombia Recorded from Guapi in the extreme south-west Cauca, south through western Narino, but apparently absent from the wettest Pacific coastal belt (Ridgely, 1982; Hilty and Brown, 1986).

Ecuador Recorded locally in western Ecuador from Esmeraldas (sightings from San Lorenzo-Vuilleumier, 1978), south through Manabi and south-west Pichincha to south-eastern Guayas in the region of Naranjal (Ridgely, 1982).

A. a. diadema (Spix, 1824) An isolated race restricted to north-western Brazil from east of the lower Rio Negro (at the Reserva Ducke -- Willis, 1977), west along the north bank of the Amazon River (Ridgely, 1982; Sick, 1984).

POPULATION No overall estimate of the population size is available. Described as relatively common over much of its range, particularly in Central America; some decline in numbers locally (Ridgely, 1981).

Belize Russell (1964) found it to be a common and widely distributed resident throughout most of Belize in the 1950s; perhaps less numerous in the extreme south.

Brazil Common in forest and forest edge at the Reserva Ducke north of Manaus (Willis, 1977) otherwise little is known (Ridgely, 1982).

Colombia Olivares (1957) described it (*lilacina*) as common in Cauca, south-western Colombia and Hilty (1985) reported the species to be locally numerous. Ridgely (1982) noted that deforestation had reduced its potential

Amazona autumnalis

range in parts of the north and virtually all of the Magdalena River valley, but not substantially in the southwest.

Costa Rica Common throughout the lowlands of the Caribbean slope; generally less plentiful in the south-west on the Pacific side but abundant on the Osa peninsula (Slud, 1964). More recently Stiles (1983) described it as common in the La Selva and Las Cruces regions but less abundant on Osa peninsula and around Monteverde. Ridgely (1982) noted that partial or general deforestation had certainly reduced numbers in many areas.

Ecuador Listed as infrequent in the western part of the country (Butler, 1979). Ridgely (1982) recorded it as uncommon to fairly common locally, but extirpated over considerable areas due to deforestation. He thought that the population of Esmeraldes was likely to be small because the climate of the province is generally unfavourable for this species. Asanza and Asanza (1987) found that the species was declining rapidly in the Cordillera Chongon-Colonche due to a combination of habitat destruction and illegal capture for trade purposes (Low, 1987).

Guatemala A fairly common resident species (Land, 1970). Ridgely (1982) reported that it was declining in some areas due to forest destruction, but overall numbers were still high.

Honduras Monroe (1968) found the species to have been common throughout forest areas and most numerous in the Caribbean lowlands. It was also common on Roatan and Barbareta, but he found none on Utila where it was described by Bond in 1936 as common (Ridgely, 1982). Described in 1985 as relatively abundant (Honduras CITES MA, 1985). Ridgely (1982) found it surprisingly uncommon in the Olancho forest area near the Nicaraguan border in 1979.

Mexico Blake (1953) described it as common in the moist lowlands of eastern Mexico and, more recently, Binford (1968) reported it as a common permanent resident in north-eastern Oaxaca. Edwards (1972) described it as moderately common in Mexico. Ridgely (1982) reported that in the north-east it had declined due to extensive habitat alteration or destruction and due to extensive trapping; in the south it was locally distributed where some forest was extant. In 1985 the population of a study area in Tamaulipas was estimated to be 0.026 ± 0.024 birds per hectare (Perez and Eguiarte, 1986).

Nicaragua It was described as 'not uncommon' in the north-east in 1922 (Huber, 1933). Howell (1957) saw flocks daily in all situations in a study area in the north-east.

Panama Common and widespread in lowland and foothill forest and more humid woodland. Rather scarce on the Pacific side of the Canal Zone but common and widespread on the Caribbean side (Ridgely, 1976; Panama CITES MA, 1985).

Venezuela Fairly common in one region in the Maracaibo basin, but the area was being rapidly deforested in 1981 (Ridgely, 1982). Status elsewhere unknown.

HABITAT AND ECOLOGY. Found in tropical and lower subtropical zones in humid lowland and foothill forest, mangrove swamps and secondary forest, less frequently in deciduous woodland, pine-oak forest or pine savanna; found also in cultivated lands (American Ornithologists' Union, 1983). The species is particularly abundant in lowlands but ranges in smaller numbers up to about 800 m in some areas (Ridgely, 1981). Usually seen in pairs or flocks of from about six to one hundred individuals; the pairs being easily discernible within the flock. Diet consists of fruits, seeds, nuts, berries, buds, and blossoms procured in the treetops (Forshaw and Cooper, 1978). In Belize they are reported to frequently raid ripening citrus and mango fruits (Russell,

1964).

THREATS TO SURVIVAL Ridgely (1981) reported that the recent local decline of some populations of the species has largely been due to habitat destruction, though considerable numbers are exported to the United States and elsewhere; in recent years especially from Mexico and Guatemala. The impact of such trade on wild populations is unknown but was thought not to be too great, except perhaps in parts of Mexico. In Honduras the demand for this species is reportedly intermediate between that for *A. ochrocephala* and *A. albifrons*. Between 500 and 2000 individuals are captured for export as pets each year (Honduras CITES MA, 1985). Recent exports from Honduras reported to CITES are considerably higher than this (see below). The nominate subspecies was reported to be commonly kept by aviculturalists in the United States but seldom imported to Europe; *salvini* has been traded irregularly, especially during the 1960s, but *diadema* and *lilacina* were reportedly rare in aviculture; some specimens of the latter two races have probably been traded but incorrectly identified (Low, 1986a). Commonly kept as a pet in Panama (Wetmore, 1968).

INTERNATIONAL TRADE Considerable numbers of this species have been traded in recent years, the majority having been imported by the United States (Ridgely, 1981). Listed in CITES Appendix II in 1981.

Table 1. Minimum net imports of live *A. autumnalis* reported to CITES

	1981	1982	1983	1984	1985
Bahrain	-	-	-	-	1
Bulgaria	-	-	-	-	2
Canada	25	18	2	128	39
Cayman Islands	-	-	-	-	7
Costa Rica	1	2	-	-	1
Cuba	-	-	-	1	-
Czechoslovakia	-	-	-	-	1
Dominican Republic	-	2	-	-	-
El Salvador	1	-	-	-	-
France	-	2	12	50	-
German D.R.	-	-	2	-	6
Germany, F.R.	172	167	-	40	231
Hong Kong	-	-	-	-	150
Hungary	-	-	-	1	-
Italy	-	3	-	2	8
Japan	-	-	11	153	6
Libya	-	-	-	2	-
Peru	1	-	-	-	-
Puerto Rico	-	1	-	-	2
Singapore	-	-	-	-	453
Spain	-	3	-	-	4
Sweden	-	129	-	-	-
Switzerland	8	-	-	1	-
UAE	-	-	-	20	-
UK	5	-	-	-	-
USA	754	1555	3226	7062	4995
USSR	-	-	-	5	4
Unknown	-	-	-	-	2
TOTAL	967	1882	3253	7465	5913

Amazona autumnalis

Table 2. Reported countries of origin or export for exports of live *A. autumnalis* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. autumnalis</i>					
Belize	-	-	1	-	4
Colombia	-	-	2	1	-
Ecuador	166	35	99	2988	5
Guatemala	6	12	10	46	1493
Honduras	737	1523	3091	4338	4023
Mexico	19	267	-	-	1
Nicaragua	16	15	7	20	21
Panama	14	20	16	3	4
Venezuela	-	-	-	-	1
Countries without wild populations of <i>A. autumnalis</i>					
El Salvador	-	11	21	58	380
Netherlands	-	-	-	-	2*
Qatar	-	-	-	15	-
UK	-	-	5	-	-
Unknown	19	2	3	1	-

* = captive bred

Over the period 1981-1984 there was a significant increase in the number of birds reported in trade each year but a slight decrease occurred in 1985. The vast majority of these birds were reportedly imported by the United States.

The net imports of the United States estimated from CITES data can be compared to those compiled by Nilsson (1985) from United States Department of Agriculture quarantine forms and Fish and Wildlife Service import forms: 1980 - 1738, 1981 - 2928, 1982 - 2597, 1983 - 2952 and 1984 - 4239. These figures are larger than those reported to CITES for 1981 and 1982 (including almost 1000 birds from Mexico not reported to CITES in 1981), reasonably similar for 1983 and significantly smaller for 1984.

Exports from Nicaragua, reported by Morales (1987), involved very small numbers until 1986: 1981 - 18; 1982 - 15; 1983 - 32; 1984 - 20; 1985 - 20; 1986 - 634.

Although trade in this species was recorded from all of the countries with wild populations except two (Brazil and Costa Rica), the vast majority of the birds were reported to have been exported by Honduras in the years 1981-1983, Honduras and Ecuador in 1984 and Guatemala and Honduras in 1985 (Table 2).

The reported import of 2780 birds by the United States from Ecuador in 1984 is notable as Ecuador banned commercial export of indigenous wildlife in January 1983 (see Conservation Measures) and the only race of this species found there is *lilacina*, the population of which has reportedly declined significantly owing to habitat destruction (Ridgely, 1981). The data compiled by Nilsson (1985) did not include any import of this species from Ecuador in 1984. None of the birds in trade was reported to have been bred in captivity.

CONSERVATION MEASURES The following information was extracted from Fuller et al., (1987).

Belize A seven-year moratorium on commercial trade in wildlife was imposed in 1981. All except six species of birds are protected from hunting.

Brazil All wildlife exports have been banned since 1967.

Colombia Commercial hunting of all birds has been prohibited since 1973 under Resolucion No. 849.

Costa Rica All commercial hunting, trade and export of non-marine wildlife has been prohibited since 1970, except for injurious species or captive-bred animals.

Ecuador All exports of indigenous wildlife have been prohibited since January 1983, except for educational or scientific purposes.

Guatemala All capture and export was temporarily suspended on 24 March 1986 (CITES Notification to the Parties No. 386, 7 May 1986).

Honduras The export of most wildlife is prohibited, except for certain species, including *Amazona autumnalis*, for which quotas are set every three months. There is no indication of what the quotas are, but they are said to have been substantial in recent years.

Mexico Not a Party to CITES. Commercial export and import of most wildlife has been prohibited since 20 September 1982.

Nicaragua Commercial hunting, export and import of most wildlife has been prohibited since 1977. Export of parrots as personal pets may be permitted.

Panama The species is not protected in Panama. The sale of meat of all wild animals is prohibited.

Venezuela With few exceptions, all hunting of indigenous wildlife has been prohibited since 1970.

CAPTIVE BREEDING Very few birds of this species are bred in captivity (Low, 1986a).

MEALY PARROT
MEALY AMAZON

Recommended list: 2
[Possible problem]

Amazona farinosa (Boddaert, 1783)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS This species has one of the largest ranges of any Neotropical parrot: from southern Mexico through Guatemala, Belize, Honduras, Nicaragua and Costa Rica to Panama, Colombia, Ecuador, Venezuela, Guyana, Suriname, French Guiana, Brazil, Bolivia and Peru. Five subspecies have been recognised. It is reported to be common throughout the bulk of its range in the Guianas and Amazonia, but is thought to have declined in Central America, western Ecuador and south-east Brazil as a result of deforestation. Primarily a species of humid lowland forests, extending up to 1500 m altitude.

Minimum net imports reported to CITES from 1981 to 1985 varied from 1721 in 1982 to 4876 in 1985. The majority of exports originated in Guyana, with lesser amounts from Honduras and, particularly in 1981, Bolivia. Guatemala emerged as the major exporter in 1985. Protected in most countries of origin, but exports are permitted from Guyana, Honduras, Panama and Suriname.

This species is probably capable of sustaining a substantial trade in the central part of its South American range, but the large and increasing trade from Guyana requires monitoring because export controls, although apparently subject to a quota system, have not so far been based on quantitative data from population surveys. The species is apparently generally uncommon in Honduras and the level of trade from there should be investigated; clarification should be sought on the setting of quotas.

DISTRIBUTION This species has one of the largest ranges of any Neotropical parrot: from southern Mexico through Guatemala, Belize, Honduras, Nicaragua and Costa Rica to Panama, Colombia, Ecuador, Venezuela, Guyana, Suriname, French Guiana, Brazil, Bolivia and Peru. Five subspecies have been recognised, but *A. f. chapmani* is thought to be referable to *A. f. inornata*, which itself is probably not distinct from *A. f. farinosa*.

A. f. farinosa (Boddaert) South-eastern Colombia (possibly); eastern Venezuela, Guyana, Suriname, French Guiana, south through eastern Brazil to northern Bolivia where it intergrades with *A. f. chapmani* (Forshaw and Cooper, 1978).

Bolivia Primarily found in Santa Cruz. Recorded from Rio Ichilo and the new settlement area, 1st of May, both in Santa Cruz (Nores and Yzurieta, 1984a. Recorded from Rio Chapare (Cochabamba), Rio Surutu (Santa Cruz) and Santa Ana (La Paz) (Bond and Meyer de Schauensee, 1943).

Brazil Recorded widely from Amazonian Brazil south to northern Mato Grosso and east through Para to north-west Maranhao. Also an isolated area in the coastal south-east from southern Bahia and extreme eastern Minas Gerais south through Espirito Santo (including Sooretama Reserve - Scott and Brooke, 1985) and Rio de Janeiro to north-east Sao Paulo (Ridgely, 1982; Gyldenstolpe, 1951).

Colombia Possibly occurs in easternmost Vaupés (Forshaw and Cooper, 1978).

French Guiana Recorded from "Cayenne" (Berlepsch, 1908) and from the Rivière Lunier and St. Georges (Menegaux, 1904).

Guyana Found along the coastal rivers from NWD to Courantyne River; inland to Bartica, Kamakusa, Rockstone, Kamakabra and Oko River (Snyder, 1966).

Suriname Reported from the forests in the coastal region (Haverschmidt, 1968). Recorded at Coeroeni Airstrip (Scharringa, 1974). Listed as present at the Raleigh Falls and Brownsberg National Parks (Donahue and Pierson, 1982).

Venezuela Found in northern Bolivar, from the Rio Caura to the Rio Cuyuni (Meyer de Schauensee and Phelps, 1978).

A. f. inornata (Salvadori) From Veraguas in Panama east to north-western Venezuela south through Colombia west of the Andes to north-western Ecuador. Gyldenstolpe (1951) pointed out that there was considerable overlap between *A. f. inornata* and *A. f. farinosa* in western Brazil and even western Ecuador, and that the two subspecies were probably not distinct.

Brazil Presumably the subspecies found in the extreme north and west, but its distribution is unclear.

Colombia The entire Pacific coast and east in the humid lowlands north of the Andes, including the Los Katios National Park (Rodriguez, 1985), to the Rio Lebrija in the middle Magdalena valley. Also isolated populations at Snia. de San Jacinto, Sucre and along the entire western base of the Perija Mountains. Probably occurs throughout the country east of the Andes but not recorded from llanos (Hilty and Brown, 1986).

Ecuador In the west known from the Colombian border south to Naranjal in south-eastern Guayas; absent from more arid areas northward (Ridgely, 1982).

Panama Found from the Province of Veraguas eastward to the Colombian border, on both coasts; in Darien ranging in the mountains to La Laguna and Cerro Mali; Isla Coiba, Isla Coibita and Isla Canal de Afuera (Wetmore, 1968).

Peru Traylor (1958) recorded it from Yarinacocha and Cerro Azul in the north-east and it apparently occurs widely in the east of the country, presumably east of the range of *chapmani* (Ridgely, 1982).

Venezuela Found in the north and west, in the states of Zulia, Tachira, Barinas, and north and central Amazonas (Meyer de Schauensee and Phelps, 1978).

A. f. chapmani Traylor Known from south-eastern Colombia, the eastern slopes of the Andes in Ecuador, to northern Peru and north-eastern Bolivia. Forshaw and Cooper (1978) remarked that this is a most unsatisfactory subspecies; probably referable to *A. f. inornata*.

Bolivia Recorded in the north-east (Forshaw and Cooper, 1978).

Colombia Recorded from Putumayo and Vaupés in the south-east (Forshaw and Cooper, 1978; Blake, 1962).

Ecuador Recorded widely east of the Andes, including Sarayacu and Rio Bobonaza (Traylor, 1948; Ridgely, 1982).

Peru Recorded from the Huallaga River in the Department of San Martin, and may occur west of the eastern Andes (Bond, 1955, see Traylor, 1958).

A. f. virenticeps (Salvadori) From westernmost Panama north through Costa Rica and Nicaragua probably to eastern Honduras.

Costa Rica Present on both coasts, but primarily on the Caribbean side. Distributed over most of the tropical belt, but rising to the low crest of the continental divide north from the Arenal Gap, and to the middle of the subtropical belt along the Cordillera Central. Previously recorded from the

Amazona farinosa

central plateau, but not recently (Slud, 1964).

Honduras Populations in the tropical rain forests of the eastern half of the country on the Caribbean slope are probably referable to *A. f. virenticeps* (Monroe, 1968).

Nicaragua Fairly widespread on the Caribbean slope except in the pine-forested region of the north-east (Ridgely, 1982; Morales, 1987).

Panama Confined to the extreme west of the country, in western Chiriqui (Puerto Armuels, Bugaba, Divala) and western Bocas del Toro (Almirante) (Wetmore, 1968).

A. f. guatemalae (Sclater) Occurs along the Caribbean slope from Honduras to Mexico.

Belize Recorded from Gallon Jug, Manatee Lagoon, north slope of the Cockscomb Mountains, Hill Bank, Mountain Pine Ridge and San Pedro Colombia (Russell, 1964).

Guatemala Found in the lowland Caribbean forests and in Peten (Land, 1970).

Honduras A resident of the lowland tropical rain forest of the Caribbean slope, up to 1200 m. Specimens from the west half of the country are referable to *A. f. guatemalae*, but one from Cerro Santa Barbara was said not to be entirely typical of this race (Monroe, 1968). Recorded from Omoa and San Pedro (Stone, 1932).

Mexico Found in the lowlands of Veracruz, Oaxaca, Chiapas and southern parts of the Yucatan Peninsula (Peterson and Chalif, 1973), including Quintana Roo (Edwards, 1972) and Campeche (Paynter, 1955, see Forshaw and Cooper, 1978). Edwards (1972) indicated that it occurs on the Pacific slope of Chiapas.

POPULATION Ridgely (1981) reported that where continuous forest remained, the species was fairly common to common but that forest clearing had certainly caused substantial declines in some areas, particularly in Central America, western Ecuador and eastern Brazil. Throughout the large central portion of the range, in Amazonia and the Guianas it was thought to remain numerous and undiminished.

Belize Described as a moderately common resident (Russell, 1964).

Bolivia Described as relatively common in Santa Cruz (Nores and Yzurieta, 1983) and considered as common at Tumi Chucua in northern Beni (Pearson, 1975b).

Brazil Widespread and fairly common to common in Amazonia, with some localized declines especially south of the Amazon River due to deforestation. Forest destruction has resulted in a major decline in numbers in the south-east, where it is now essentially confined to the few remaining large tracts of forest. It has perhaps already been extirpated from Rio Janeiro and Sao Paulo (Ridgely, 1982). Listed as fairly common in Sooretama Biological Reserve (Scott and Brooke, 1985) and Reserva Florestal da CVRD-Linhares, Espirito Santo (Scott, 1985). Listed as common at Estação Ecologica de Alaraca, Roraima (Moskovits et al., 1985).

Colombia Uncommon to locally fairly common; most numerous and widespread in Amazonia. Some decline is likely in the north and in the Magdalena valley, but little specific information is available (Ridgely, 1982).

Costa Rica Occurs primarily on the Caribbean side, where it is appreciably

more abundant in the wetter portions of the range. Generally scarce on the Pacific slope, though locally abundant. Scarce in the General-Térraba region. Common at Esquinas and abundant at Rincon in the wet Golfo Dulce lowlands (Slud, 1964). Listed as common near La Selva, abundant on the Osa Peninsula and uncommon near Las Cruces (Stiles, 1983). Some decline has occurred due to deforestation in many areas in the north-east and south-west (Ridgely, 1982).

Ecuador Fairly common to common on both slopes; more numerous and widespread in the east. Has declined considerably in the west due to deforestation, and now decidedly local except in Esmeraldes, where it was still widespread and fairly common (Ridgely, 1982).

French Guiana Apparently scarce (France CITES MA, 1986).

Guatemala Said to be fairly common in undisturbed lowland Caribbean forests and in Peten; sometimes quite numerous locally (Land, 1970). Said to be common at Tikal, Peten (Smithe, 1966, see Forshaw and Cooper, 1978). It is likely that some reduction in overall numbers has occurred (Ridgely, 1982).

Guyana Described as less common than *Amazona ochrocephala* and *Amazona amazonica*, which were respectively described as "more common inland" and "widespread and abundant" (Snyder, 1966).

Honduras Described as an uncommon resident of the tropical rain forest (Monroe, 1968). Ridgely (1982) found it to be quite numerous in the Olancho forests in the south in March 1979.

Mexico Blake (1953) believed it to be the least common square-tailed parrot in Mexico. Described as rather rare (Edwards, 1972). Uncommon and local in southern Veracruz (Loetscher, 1941, see Forshaw and Cooper, 1978). Fairly common in Oaxaca (Binford, 1968, see Forshaw and Cooper, 1978). Ridgely (1982) found that, except in eastern Chiapas, its overall numbers were much reduced due to the great reduction in the extent of the forest.

Nicaragua No information.

Panama Fairly common in humid forested lowlands. Numerous on Coiba Island. Less numerous than *Amazona autumnalis* in the Canal Zone (Ridgely, 1976). The species was said to be the most common Amazon parrot in Panama. *A. f. inornata* was described as not common on the Pacific slope west of Rio Bayano, but more abundant on the Caribbean slope from the northern Canal Zone to eastern San Blas. *A. f. virenticeps* was said to be locally common near Almirante. Populations are thought to have declined as a result of hunting (Wetmore, 1968). Said to be common in forest on Barro Colorado Island (Eisenmann, 1952, see Forshaw and Cooper, 1978).

Peru Described as common to abundant in eastern Peru, though depleted in the Iquitos area; not threatened elsewhere (O'Neill, 1981). Listed as common in the Manu National Park (Terborgh et al., 1984).

Suriname Reported to be rather common in forests (Haverschmidt, 1968). Listed as uncommon in the Raleigh Falls and Brownsberg National Parks (Donahue and Pierson, 1982).

Venezuela Fairly common. Some decline has occurred in the west as a result of deforestation (Ridgely, 1982).

HABITAT AND ECOLOGY. According to Ridgely (1981) the typical habitat is humid tierra firma forest, but, in some areas, also deciduous forest. Meyer de Schauensee and Phelps (1978) listed its habitat as ranging from gallery forest

Amazona farinosa

to llanos to savannahs. In Costa Rica it has been reported to prefer clearings and the edge of forests (Slud, 1964). Feeds almost entirely in the forest (Ridgely, 1981) on fruits, seeds, nuts, berries, blossoms and leaf buds (Forshaw and Cooper, 1978), but damage to cornfields is reported in Panama (Wetmore, 1957). Nesting has been reported in hollow trees and in a crevice in a ruined wall (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Loss of habitat due to deforestation is a particular threat in Central America, western Ecuador and south-eastern Brazil (Ridgely, 1981). O'Neill (1981) said that in Peru it was locally sought as a pet, particularly in the Iquitos area. Ridgely (1979) reported that the species had declined locally in Brazil as a result of deforestation, but that it was less in demand as a cagebird than its congeners. *A. farinosa* is the second most commonly exported parrot from Guyana, but the numbers exported (2275 a year from 1978 to 1979) are not thought to be excessive. Niles (1981) claimed that it could be assumed that the trade was making no significant inroads on the population structure but admitted that no population surveys had been carried out. In Panama, damage to corn fields is countered by placing guards to scare the birds off. Reported to be hunted extensively by the indians for food, and the young are removed from the nests to be reared as pets, activities that must have been responsible for their reduced abundance (Wetmore, 1968).

Table 1. Minimum net imports of live *A. farinosa* reported to CITES

	1981	1982	1983	1984	1985
Belgium	-	-	-	-	42
Canada	12	24	55	18	8
Costa Rica	-	4	-	-	-
Cyprus	-	-	-	2	-
Czechoslovakia	-	-	-	-	4
Denmark	-	-	-	-	130
Ecuador	1	-	-	-	-
France	-	-	7	-	-
German D.R.	-	-	-	-	2
Germany, F.R.	234	145	148	510	445
Hungary	-	-	-	1	-
Italy	3	50	-	251	1
Japan	-	-	-	1	11
Korea	-	-	-	9	1
Kuwait	-	-	-	-	7
Mexico	-	-	-	1	-
Netherlands	-	3	8	168	563
Oman	-	-	-	4	-
Saudi Arabia	-	-	-	-	25
Singapore	-	-	-	-	43
South Africa	-	-	-	12	6
Spain	1	5	1	3	19
Sweden	-	-	30	17	84
Switzerland	6	5	-	1	3
UAE	-	-	-	-	11
UK	200	122	25	200	133
USA	1793	1363	2064	2487	3322
USSR	-	-	-	-	16
Unknown	371	-	-	-	-
TOTAL	2621	1721	2338	3685	4876

INTERNATIONAL TRADE Exports of *A. farinosa* from Guyana were reported to have been 2243 in 1978 and 2306 in 1979 (Niles, 1981). Exports from Nicaragua, reported by Morales (1987), involved very small numbers until 1986: 1981 - 2; 1982 - 7; 1983 - 6; 1984 - 12; 1985 - 9; 1986 - 225.

Minimum net imports reported to CITES from 1981 to 1985 varied from 1721 in 1982 to 4876 in 1985. The main importing countries were the USA, F.R. Germany the Netherlands and the UK (Table 1). Until 1984 the majority of exports originated in Guyana, with lesser amounts from Honduras and, particularly in 1981, Bolivia. Guatemala emerged as the major exporter in 1985. From 1981 until 1983 the levels of exports from Guyana were lower than those reported in 1978 and 1979 which Niles (1981) believed to be within sustainable limits. The exports increased in 1984, but were reduced again in 1985. Figures supplied by the Santa Cruz regional wildlife management authority indicate the exports of this species from Bolivia totalled 1377 from 1980 to 1983, suggesting that the CITES reports may have underestimated the trade.

Table 2. Reported countries of origin or export for exports of live *A. farinosa* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. farinosa</i>					
Belize	-	1	-	-	-
Bolivia	674	57	20	4	2
Brazil	-	-	-	-	1
Colombia	-	-	1	-	-
Costa Rica	-	1	1	-	-
Ecuador	-	3	-	-	7
French Guiana	-	2	-	-	-
Guatemala	10	18	11	128	2083
Guyana	1573	1244	1582	3054	1950
Honduras	212	288	677	321	591
Mexico	1	2	2	-	-
Nicaragua	10	8	3	9	9
Panama	9	3	2	3	4
Peru	-	-	3	-	1
Suriname	22	3	10	1	7
Venezuela	-	1	-	-	-
Countries without wild populations of <i>A. farinosa</i>					
Belgium	111	-	-	-	-
El Salvador	-	97	28	158	229
German D.R.	-	-	-	6	-
USA	-	-	11	1	-
Unknown	-	1	-	1	1

CONSERVATION MEASURES All of the range states except Mexico are Parties to CITES. The following information is from Fuller *et al.*, (1987) unless otherwise indicated.

Belize A seven-year moratorium on commercial trade in wildlife was imposed in 1981. All except six species of birds are protected from hunting.

Bolivia All exports of live wildlife have been prohibited since 1 May 1984.

Amazona farinosa

Brazil All wildlife exports have been banned since 1967.

Colombia Commercial hunting of all birds has been prohibited since 1973 under Resolucion No. 849.

Costa Rica All commercial hunting, trade and export of non-marine wildlife has been prohibited since 1970, except for injurious species or captive-bred animals.

Ecuador All exports of indigenous wildlife have been prohibited since January 1983, except for educational or scientific purposes.

French Guiana French Guiana is covered by CITES controls as an overseas department of France. Since May 1986 the sale and purchase of non-domestic native species has been prohibited.

Guatemala All capture and export was temporarily suspended on 24 March 1986 (CITES Notification to the Parties No. 386, 7 May 1986).

Guyana Parrots are not protected in Guyana but are open for exploitation for the local and overseas pet trade. The numbers exported are controlled by quotas allotted to about 12 registered companies; however the quotas are not determined on precise quantitative surveys (Niles, 1981). The quota for 1987/88 was 2300 (Thomsen, 1988).

Honduras The export of most wildlife is prohibited, except for certain species, including *A. farinosa*, for which quotas are set every three months. There is no indication of what the quotas are, but they are said to have been substantial in recent years.

Mexico Not a Party to CITES. Commercial export and import of most wildlife has been prohibited since 20 September 1982.

Nicaragua Commercial hunting, export and import of most wildlife has been prohibited since 1977. Export of parrots as personal pets may be permitted.

Panama *A. farinosa* is not protected in Panama. The sale of meat of all wild animals is prohibited.

Peru All commercial hunting of wildlife in the Selva region, east of the Andes has been prohibited since 1973. This species is not included in the list of parrots allowed for export (CITES Notification to the Parties No. 389, 7 May 1986).

Suriname Since 1970, hunting and trade of native birds and mammals has been prohibited except for listed game or domestic species. *A. farinosa* is listed as a game species, which means that hunting is permitted during open seasons. An annual quota of 64 was set for 1987 (Thomsen, 1988).

Venezuela With few exceptions, all hunting of indigenous wildlife has been prohibited since 1970.

CAPTIVE BREEDING The species is uncommon in captivity and has only quite recently been bred for the first time (Low, 1986a).

LILAC-CROWNED PARROT
LILAC-CROWNED AMAZON
Amazona finschi (Sclater, 1864)

Recommended list: 2
[Possible problem]

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Endemic to Mexico and restricted to the Pacific slope from southern Sonora and south-western Chihuahua south to Oaxaca. In 1980 it was considered to be generally common and widespread in its range, except in the extreme north and south where it was thought to be less numerous. In 1980 it was speculated that trade was beginning to affect populations of the species adversely. Inhabits woods in the foothills and on the lower mountain slopes, but wanders widely outside the breeding season.

The recorded trade showed an increase from 567 in 1981 to 1568 in 1982 but dropped to virtually nil in 1983 to 1985. Commercial export of birds from Mexico was banned on 20 September, 1982.

Whilst the ban on exports is in operation trade is unlikely to affect the species but the ban may be only temporary in nature. The situation needs continual monitoring and up-to-date information on its status in the wild is required.

DISTRIBUTION Restricted to Pacific slopes of Mexico. Introduced and possibly established in southern California, USA (American Ornithologists' Union, 1983). Two subspecies have been recognised, although Forshaw and Cooper (1978) considered them to be poorly differentiated. Ridgway (1916) recognised no subspecies and gave the distribution as: Chihuahua (La Trompa, Mina Abundancia); Sonora (Alamos); Sinaloa (Mazatlan, Presidio de Mazatlan, Escupinapa, Cosala, Culebra, Punta de Mita, Choix); Michoacan (Volcan de Jurulla); Jalisco (Las Palmas, Barranca Ibarra, Barranca Veltran); Durango (Chacala); Colima (Rio de la Armeria, Colima); Oaxaca (Putla, Ventosa, Zanatepec, Tehuantepec); Nayarit (San Blas).

A. f. finschi (Sclater) Occurs in central-western and south-western Mexico from southern Sinaloa and Durango south to Oaxaca (Blake, 1953).

A. f. woodi Moore Confined to north-western Mexico, from south-eastern Sonora and south-western Chihuahua south to north-eastern Sinaloa (Blake, 1953). Van Rossem (1945) found it to be confined in Sonora to the foothills and mountains of the extreme south-eastern corner of the state.

POPULATION Ridgely (1981) said that the species was generally common and widespread except at the northern and southern extremities of its range. The population was thought to be stable until the mid-1970s, but may have subsequently declined owing to increased levels of exports. Blake (1953) said it was sometimes found at sea-level but was more abundant in the mountains, however Edwards (1972) described it as common at lower elevations. Schaldach (1963) reported it to be an abundant resident of Colima, seen in large flocks in the dry season. Found to be not common in Nayarit, inland from San Blas, in January 1965, although in November of the same year it was very abundant in the same area (Forshaw and Cooper, 1978). Binford (1968, see Forshaw and Cooper, 1978) reported it to be very uncommon in Oaxaca. Van Rossem (1945) found it to be a fairly common but rather local resident of Sonora. Short (1974) did not observe this species along the Cuchujaqui River in southern Sonora in 1971, but reported that it had been common there in 1967 and 1968. Stager (1954) found *A. f. woodi* to be fairly common from El Muerto northwards in south-western Chihuahua, recording a roosting flock of several hundred. It was said to be not uncommon at an altitude of 2900 ft (884 m) at the bottom of the Barranca de Cobre.

Amazona finschi

HABITAT AND ECOLOGY. Found primarily in wooded foothills and mountains locally to an altitude of 2200 m, although it is occasionally seen at sea level, presumably as a non-breeding visitor. Roosting flocks of over 1000 birds have been reported. Nesting has been observed in an old woodpecker's hole in May (Forshaw and Cooper, 1978). Earlier suggestions of breeding in arboreal termite mounds were refuted on personal inspection by Schaldach (1963).

THREATS TO SURVIVAL Ridgely (1981) reported that there was still a considerable amount of little-disturbed habitat for this species, although more habitat destruction had occurred in the coastal lowlands. He suggested that numbers could well decline owing to recently increased levels of exports. Schaldach (1963) reported it that it was greatly detested in Colima owing to the damage it did to young corn and ripening bananas.

INTERNATIONAL TRADE CITES reports of trade in *A. finschi* include a record of the import of 2600 to the USA from Tanzania in both 1981 and 1982. It is obvious that this is an error, almost certainly referring to *Agapornis fischeri*, and so these figures have been excluded from the subsequent analysis. Minimum net imports reported to CITES rose to 1568 in 1982, but were negligible in 1983 to 1985. The main importing countries were the USA, F.R. Germany and Sweden (Table 1). Almost all the exports originated in Mexico, although 10 birds were reported from Guinea in 1984, presumably in error (Table 2). The dramatic reduction in trade coincided with export ban imposed in Mexico, which therefore appears to have been effective.

Table 1. Minimum net imports of live *A. finschi* reported to CITES

	1981	1982	1983	1984	1985
Germany, F.R.	43	235	-	-	-
Japan	-	-	-	10	-
Sweden	-	137	-	-	-
Switzerland	-	10	-	-	-
UK	2	50	-	-	-
USA	522	1136	2	1	2
	(+ 2600)	(+ 2600)			
TOTAL	567	1568	2	11	2
	(+2600)	(+2600)			

CONSERVATION MEASURES Mexico is not a Party to CITES. Commercial export and import of most wildlife has been prohibited since 20 September 1982 (Fuller et al., 1987).

CAPTIVE BREEDING Better known in the USA than in Europe in aviculture. It has bred in captivity on rare occasions (Low, 1986a).

Table 2. Reported countries of origin or export for exports of live *A. finschi* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. finschi</i>					
Mexico	567	1567	2	-	-
Countries without wild populations of <i>A. finschi</i>					
Canada	-	-	-	-	1
Colombia	-	1	-	1	-
Guinea	-	-	-	10	-
Unknown	-	-	-	-	1

YELLOW-HEADED PARROT
YELLOW-HEADED AMAZON

Recommended list: 2
[Possible problem]

Amazona ochrocephala (Gmelin, 1788)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS The species, as currently recognised, comprises a complex of ten or eleven subspecies but these subspecies can be grouped morphologically into three types. These latter are possibly sympatric and are regarded by some recent authors as separate species. They are treated as three separate groups here.

Oratrix Comprises three or four subspecies which occur in Mexico, the Tres Marias Islands (off the coast of Mexico) and Belize. In eastern Mexico there has been a striking reduction in numbers in recent years owing to habitat destruction and intensive pressure from bird trappers. There is no recent information concerning the status of the populations on the Pacific coast of Mexico, nor Belize, but a survey of the Tres Marias Islands in 1984 indicated that there might be less than 800 birds.

Auropalliata Comprises two subspecies: one occurs on the Pacific coast from southern Mexico through western Guatemala, El Salvador, Western Honduras, Western Nicaragua and north-west Costa Rica; the other has disjunct populations on the Bay Islands (off the coast of Honduras in north-west Honduras and in eastern Honduras and north-east Nicaragua. In 1980 it was considered that it remained widespread and tolerably numerous, although some decline in numbers was evident due to habitat modification. Little recent specific information is available; in Costa Rica it was considered to be uncommon in two protected areas in the north-west in 1983; in Honduras it is regarded as more threatened than other species of amazon; and in El Salvador it was rarely seen in 1978 in areas where it was formerly common.

Ochrocephala Comprises four to five subspecies and occurs in Panama, Colombia, Venezuela, Brazil, Guyana, Suriname, French Guiana, Ecuador, Peru and Bolivia. Records from Trinidad are likely to pertain to escaped cage birds. There is an undescribed form occurring in north-west Honduras. In 1980, populations of this group were considered to remain numerous in most areas. Most references to specific areas describe it as common or fairly common but is regarded as having declined in Colombia, is considered rare in one area in Suriname and there are only three published records for Bolivia. There is no recent information relating to French Guiana.

The species is found in lowland deciduous woodland or gallery forest in more open areas. In forested regions it occurs in varzea forest and secondary growth along the major rivers. In eastern Mexico, *oratrix* favours gallery forest in semi-arid regions northward, more humid savanna country, also with gallery forest, southward.

The recorded trade in this species during 1981-85 ranged from 3960 in 1981 to 15 202 in 1985. In 1981 and 1982 the most important source countries were Honduras, Mexico and Guyana, with small numbers from El Salvador, Colombia, Panama and eight other range countries. From 1983 to 1985 the most important sources were Honduras, Guyana, El Salvador and Guatemala with small numbers from twelve other range countries. It is not known what proportions of *auropalliata* and *ochrocephala* were involved in the trade from Honduras. The species is protected in Belize, Colombia, Panama, Venezuela and northern Suriname. Export is banned in Bolivia, Brazil, Ecuador, French Guiana,

Guatemala, Mexico and Peru; also in Costa Rica and Nicaragua except for pets. Honduras, Guyana and Suriname allow exports under a quota system. The species is apparently unprotected in El Salvador but it is not known whether there are any export controls.

Although the species is still common in many areas, much of the trade originates in countries where it is declining or where its status is poorly known. The situation needs careful monitoring especially if the export bans in Mexico and Bolivia are lifted.

DISTRIBUTION Wide-ranging from Mexico to Brazil. The species, as currently recognised, comprises a complex of nine or ten subspecies but these subspecies can be grouped morphologically into three types. These latter are possibly sympatric and are regarded by some recent authors as separate species. They are treated as three separate groups here.

In addition, an unknown subspecies of *A. ochrocephala* has been recently introduced to Puerto Rico. It has been sighted at various localities along the north coast, but is most easily seen at Hato Rey and Rio Piedras. It has bred (Raffaele, 1983).

GROUP 1: *Oratrix* Comprises three or four subspecies which occur in Mexico and Belize.

***A. o. oratrix* Ridway**

Mexico Populations occur on both slopes of the country: on the Caribbean side, from southern Nuevo Leon and central Tamaulipas southwards through San Luis Potosi, Vera Cruz, northern Oaxaca, northern Chiapas and Tabasco to Campeche (Ridgely, 1981; American Ornithologists' Union, 1983), but absent from the Yucatan Peninsula; and on the Pacific slope from Colima southwards to Guerrero (Blake, 1953; Peterson and Chalif, 1973) and possibly south-western Oaxaca (American Ornithologists' Union, 1983). In Colima the species is confined to forest at the base of the Cerro del Sacate and the other mountain massifs of the central portion of the state (Schaldach, 1963). Recorded from the Gomez Farias Region of southern Tamaulipas (Sutton and Pettingill, 1942). Stone (1932) records this subspecies from Ruatan Island and Yojoa, Honduras, but Monroe (1968) assigns these records to *A. o. auropalliata* and another subspecies.

Monroe and Howell (1966) treated the Caribbean slope populations as belonging to a separate subspecies, *magna*, which was separable from *oratrix* by its larger size and extensive yellow on the head. Neither this subspecies nor the range of variation within *oratrix* are mentioned by Forshaw and Cooper (1978).

***A. o. tresmariae* Nelson**

Mexico Found only on the Tres Marias Islands off the coast of Nayarit, western Mexico, where it occurs on all four islands (Stager, 1957; Grant and Cowan, 1964; Konrad, 1984).

***A. o. belizensis* Monroe and Howell**

Belize Said to be local in distribution, and common only in the lower Sibun and Sittee rivers (Russell, 1964).

Guatemala A specimen of *A. ochrocephala* has been reported from close to the border in Guatemala (Land, 1970), which seems more likely to have been of this subspecies than of *A. o. auropalliata* as Land implied.

Amazona ochrocephala

GROUP 2: *Auropalliata* Comprises two subspecies, occurring from southern Mexico through western Guatemala, El Salvador, Honduras, Nicaragua to north-west Costa Rica.

***A. o. auropalliata*:** Pacific coast from southern Mexico through Guatemala, El Salvador, Honduras and Nicaragua to north-western Costa Rica (Monroe, 1968).

Costa Rica Reaches its southern limit in the north-west of the country. The distribution is centred in the tropical dry forest, and rises to the lower slopes of the Guanacaste Cordillera. Absent from the central plateau. Reported in moist forest at Sarapique and in the Caribbean lowlands in the Rio Frio region (Slud, 1964). Listed as resident at Palo Verde and Santa Rosa, and accidental at Osa Peninsula (Stiles, 1983).

El Salvador Widespread in the lowlands and recorded nesting at Puerto del Triunfo (Dickey and van Rossem, 1938).

Guatemala Confined mainly to the Pacific lowlands, from sea level to 600 m, but there is apparently one isolated record from the Peten in the north-east, close to the border with Belize (Land, 1970). It seems likely that this may have been *A. o. belizensis*. Land gave no indication of the source of this record.

Honduras Confined to the Pacific lowlands, where it has also been recorded from Tigre Island in the Bay of Fonseca (Monroe, 1968).

Mexico Confined to the Pacific slopes of southern Oaxaca and Chiapas (Peterson and Chalif, 1973).

Nicaragua Widespread on the Pacific slope and on the eastern side of Lake Nicaragua (Ridgely, 1982).

USA There is a well established introduced population in California, which breeds around west Los Angeles and west San Gabriel Valley (USA CITES MA, 1987). Another population in New York has survived at least one winter, and flocks have been recorded in Texas. Birds of this subspecies have also been reported at Oahu, Hawaii, but it is not thought to have become established there (Long, 1981).

A. o. parvipes Monroe and Howell Confined to the Caribbean slope of north-eastern Nicaragua and Honduras, including the Bay Islands.

Honduras Confined to the Caribbean slope of the country, where it has been recorded from the Mosquitia region in the east, the Bay Islands (Roatan, Barbareta and Guanaja), and two specimens, apparently of this subspecies, have been collected in the Sula River valley, where it is sympatric with an undescribed subspecies of the *ochrocephala* group (Monroe, 1968).

Nicaragua Recorded from the pine savannah (Mosquitia) of north-eastern Nicaragua (Howell, 1972).

GROUP 3: *Ochrocephala* Comprises four to five subspecies and occurs in Panama, Colombia, Venezuela, Brazil, Guyana, Suriname, French Guiana, Ecuador, Peru, Bolivia and Trinidad. An isolated population of what is believed to be a so far undescribed subspecies of this group occurs in northern Honduras.

A. o. panamensis (Cabanis) From western Panama, including the Archipiélago de las Perlas, to northern Colombia.

Colombia Distributed across the tropical zone of northern Colombia, from the Atrato River to the western base of the Perija Mountains, including the Santa Marta region and south locally in the Magdalena valley to Villavieja, Huila (3°15'N, 75°17'W). Also sightings at the PN Cueva de los Guacharos (Hilty and Brown, 1986; Miller, 1947). Recorded from Los Katios National Park (Rodriguez, 1985).

Panama Found mostly on the Pacific slope, from Chiriqui to western Darién; on the Caribbean slope it is known only from a few sightings from Bocas del Toro, Barro Colorado, Madden Lake and eastern San Blas. Also found on Parida and the larger Pearl Islands (Ridgely, 1976).

A. o. nattereri (Finsch) From southern Colombia through eastern Ecuador and eastern Peru to northern Bolivia and north-western Mato Grosso, Brazil.

Bolivia Listed as present in Beni (West, 1979). Observed at Estancia Inglaterra, along the Rio Mamoré, and at Tumi Chucua, all in Beni. These were thought to be the first published records for the country (Remsen and Ridgely, 1980).

Brazil Recorded from Cachoeira da Bananeira, Rio Mamoré and Lambary in Mato Grosso (Naumburg, 1930) and in the Aripuaní region in northern Mato Grosso (P. Roth, *in litt.*, 17 December 1985). A specimen (presumably of this subspecies) was collected along the Grajaú River, Acre (Novaes, 1957, see Forshaw and Cooper, 1978). It presumably also occurs in northern Rondonia.

Colombia Eastern base of the Eastern Andes, in western Caquetá and western Putumayo (Hilty and Brown, 1986). May intergrade with *A. o. ochrocephala* at the base of the Andes in Caquetá (Blake, 1962).

Ecuador Recorded locally in the east (Ridgely, 1982), including Sarayacu (Naumburg, 1930). One record from Batzar, Guayas (Chapman, 1926) probably refers to an escaped captive bird (Ridgely, 1982).

Peru Distributed generally through eastern Peru, but more abundant in the south (O'Neill, 1981). Recorded from Samiria Rio Marafón (Naumburg, 1930), the Apurimac River, Ayacucho (Terborgh and Weske, 1969, see Forshaw and Cooper, 1978), and in the Manu National Park (Terborgh *et al.*, 1984).

A. o. xantholaema Berlepsch

Brazil Confined to Marajo Island at the mouth of the Amazon. This may not be a valid subspecies (Forshaw and Cooper, 1978).

A. o. ochrocephala (Gmelin): Guyana, Suriname, French Guiana, northern Brazil west through Venezuela to Colombia; also occurs in Trinidad, possibly as an escape.

Brazil Ranges westwards in northern Brazil from the Rio Tapajos, Para, through Amazonas, not usually extending further south than the lower reaches of the southern tributaries of the Amazon. Its distribution in eastern Amazonia, and particularly its occurrence north of the Amazon and east of the Rio Negro, remains uncertain (Ridgely, 1982).

Colombia Catatumbo lowlands in Norte de Santander and locally in the remaining area east of the Andes, probably south to Amazonas (Hilty and Brown, 1986). Recorded from Rio Guapaya, Sierra Macarena; also from Tres Esquinas and Villavicencio, Meta. May intergrade with *A. o. nattereri* at the base of the Andes in Caquetá (Blake, 1962).

Amazona ochrocephala

French Guiana Recorded from "Cayenne" (von Berlepsch, 1908). There is no recent information.

Guyana Found in wooded areas, more commonly inland than on the coast. Recorded from Georgetown (occasionally), Lamaha Conservancy, Mahaicony, Abary and Barima Rivers, Inland Bartica, Kamakusa, Upper Takutu Mountains and Annai (Snyder, 1966).

Suriname Found in the coastal region and also inland. Recorded from Käyser Mountain (Haverschmidt, 1968) and Sipaliwini Savannah (Donahue and Pierson, 1982).

Trinidad and Tobago Escaped cage-birds occur in Trinidad, but Ffrench (1973) considered it probable that wild residents also inhabit the forests bordering the swamps, although there are no authentic specimens. Not recorded from Tobago (Junge and Mees, 1958).

Venezuela Found throughout the tropical zone, except in the Andean region, the mountains along the north coast, southern Bolivar or southern Amazonas (Meyer de Schauensee and Phelps, 1978).

A. ochrocephala subsp. A hitherto undescribed subspecies of the *ochrocephala* group occurs in the Sula River valley of Honduras as far inland as Lake Yojoa, where it is sympatric with *A. o. parvipes* (Monroe, 1968).

POPULATION The *ochrocephala* group was said to be by far the most numerous, remaining numerous over much of its range, little of which has been severely disrupted, except possibly in Panama and northern Colombia. The *auropalliata* group was said to remain tolerably numerous, though its numbers had unquestionably declined owing to extensive habitat modification. But the *oratrix* group was thought to have suffered the most ominous and rapid decline, resulting from habitat destruction, particularly in eastern Mexico, and intense trapping pressure (Ridgely, 1981).

Belize Said to be local in the 1950s, and common only in the vicinity of Hill Bank and Ycacos lagoons (Russell, 1964). Not recorded by the R.A.F. Ornithological Society Expedition (Jenkins, 1981).

Bolivia Known from only three published records. Seen daily at Estancia Inglaterra, Beni, in small numbers in 1976 and sporadically at Tumi Chucua (Remsen and Ridgely, 1980). Ridgely (1982) thought that it was local and rather uncommon.

Brazil Populations in the Amazon Basin are not thought to have declined substantially (Ridgely, 1979). Listed as common at Alaracá, Roraima (Moskovits et al., 1985). Said to be extremely common in the Rio Branco region, Roraima (Pinto, 1966, see Forshaw and Cooper, 1978). Said to be common in the Aripuani region in northern Mato Grosso (P. Roth, in litt., 17 December 1985).

Colombia Listed as numerous locally in Colombia, though included in the "Blue list" of species which appear to have declined (Hilty, 1985). Ridgely (1981) thought that the species had been reduced by forest clearance and nest robbing in the north of the country. Said to be uncommon, the least frequent amazon in Los Katios National Park (Rodriguez, 1985). Dugand (1947, see Forshaw and Cooper, 1978) described it as the most common *Amazona* species in Atlántico, northern Colombia. Said to be probably common along the Upper Magdalena River (Olivares, 1969, see Forshaw and Cooper, 1978). Todd and

Carriker (1922) found it less common than *A. amazonica* in the Santa Marta region.

Costa Rica In Guanacaste it was said to be most common in the lower Tempisque basin, and seen commonly over the rest of the lowlands at the mainland entrance to the Gulf of Nicoya (Slud, 1964). Listed as uncommon at Palo Verde and Santa Rosa, and accidental at Osa Peninsula (Stiles, 1983). Ridgely (1982) noted that there are large parts of its former range where it is no longer found; it is less sensitive to disturbance than *Ara macao*, but is the next parrot to disappear as a region gradually becomes more exploited and densely inhabited.

Ecuador Ridgely (1982) found that it was uncommon to locally fairly common, and that no decline was evident.

El Salvador Formerly 'common in the arid lower tropical zone below 1500 feet' (Dickey and van Rossem, 1938), but more recently "rarely seen" (Thurber, 1978). Nest-robbing is blamed for the decline, but habitat destruction has doubtless played a role (Ridgely, 1982).

French Guiana There are no recent records. Ridgely (1982) suspected that it may have always been uncommon.

Guatemala Described as resident and fairly common in the Pacific lowlands (Tashian, 1953; Land, 1970). Ridgely (1982) thought that a decline had probably taken place as a result of habitat destruction and trade.

Guyana Said to be more common inland than on the coast (Snyder, 1966). Not plentiful in the vicinity of Mabaruma in the north-west (Forshaw and Cooper, 1978).

Honduras Said to be fairly common to common in all regions where it occurs (the Mosquitia region, the Bay Islands and the Pacific lowlands) except in the Sula River valley, where it is rare to uncommon and local in occurrence (Monroe, 1968). Ridgely (1982) thought that some decline was likely on the Pacific slope, due to both habitat destruction and trapping. The authorities in Honduras have confirmed that the species is threatened there (Honduras CITES MA, 1985).

Mexico Ridgely (1981) reported that this species was becoming increasingly difficult to find and that numbers seen were invariably small. In Tamaulipas, San Luis Potosi and Veracruz it was present in greatly reduced numbers and only locally, owing to habitat fragmentation. The gallery forests of the Rio Corona are virtually totally destroyed and the parrots almost gone, but population declines in the coastal plain of Tabasco, Campeche and northern Chiapas were thought to have been less severe (Ridgely, 1981). The species was reported to be rather rare and irregular (Edwards, 1972). Described as common on all four islands of the Tres Marias (Stager, 1957), and "the primary avian species that is widespread throughout the Tres Maria island chain". The total population on the four islands was estimated to be only 800 birds, supporting the suggestion that this subspecies is one of the endangered parrots and in need of full protection (Konrad, 1984). The recorded density in the floodplain of the Rio Corona, Tamaulipas was 1-2 breeding males per 8 ha (Gehlbach et al., 1976). Noted irregularly in the Gomez Farias Region of southern Tamaulipas (Sutton and Pettingill, 1942). In Colima it was said to be uncommon and restricted in range. Hunting for pets was thought to be responsible for its scarcity (Schaldach, 1963). Ridgely (1982) thought that it had probably declined further in recent years in Colima and Guerrero. In 1985 the population of a study area in Tamaulipas was estimated to be 0.042 ± 0.021 birds per hectare (Perez and Eguiarte, 1986).

Amazona ochrocephala

Nicaragua Fairly common and widespread on the Pacific slope and in the Mosquitia region of the north-east (Ridgely, 1982). In recent years estimates have been made of the populations of six areas in the Pacific region: Cosigüina (42.95 km²) - 10 278 pairs; Momotombo (38.67 km²) - 7386; Puerto Diaz - 493; San Ubaldo - 685; Miramonte - 268; Zapatera Island - 4320 (Morales, 1987).

Panama Said to be the least common species of *Amazona* in Panama (Wetmore, 1968). Locally fairly common in gallery woodland and savannahs on the Pacific slope, although much reduced in central Panama. Usually outnumbered by *Amazona autumnalis*. Readily observed between Penonomé and Divisa on the Pan-American Highway. Rare on the Caribbean slope except in eastern San Blas (Ridgely, 1976), where it is the most numerous parrot. Common on the eastern side of the Azuero Peninsula, but not the west; common in February 1961 on the Rio Boqueron, above Madden Lake; fairly common on Isla San José and lesser in number on Isla Pedro González in the Pearl Islands (Wetmore, 1968). Ridgely (1982) found that it had declined as a result of heavy trapping pressure and considerable forest and woodland destruction on the Pacific slope.

Peru Said to be common and abundant, especially in the south, but locally depleted by collection for pets in the area around Iquitos (O'Neill, 1981). Listed as frequent in humid tropical zones in eastern Peru (Parker et al., 1982). Listed as common in the Manu National Park (Terborgh et al., 1984).

Puerto Rico Recently introduced and still rare (Raffaele, 1983).

Suriname Said to be not uncommon on the sand ridges in the coastal region, though less numerous than *Amazona amazonica* (Haverschmidt, 1968). Listed as rare at Sipaliwini Savannah (Donahue and Pierson, 1982).

Trinidad and Tobago Said to be certainly at least rare in Trinidad (Ffrench, 1973).

Venezuela Described as common in Venezuela (Meyer de Schauensee and Phelps, 1978). Said to be very common in the lowland plains (Schafer and Phelps, 1954, see Forshaw and Cooper, 1978), and "the common large parrot" in wooded areas in north-eastern Venezuela (Friedmann and Smith, 1950, see Forshaw and Cooper, 1978). Ridgely (1982) found that it was fairly common to common and seemingly stable in numbers.

HABITAT AND ECOLOGY. Usually found in deciduous woodland or gallery forest in more open areas; where it occurs in mostly forested regions, such as the Amazon basin, it inhabits varzea forest and secondary growth along major rivers; confined to the lowlands (Ridgely, 1981). Usually seen in pairs or small flocks but spectacular morning and evening flights have been reported around roosts. They feed on fruits, seeds, nuts, berries blossoms and probably leaf buds (Forshaw and Cooper, 1978). Land (1970) reported that in Guatemala they commonly feed in cornfields, and Konrad (1984) stated that they do extensive damage to orchards in the Tres Marias Islands. Nesting occurs in holes in trees, from February to April (Forshaw and Cooper, 1978), and also in arboreal termitaria (Ridgely, 1982).

THREATS TO SURVIVAL *A. o. oratrix* and *A. o. tresmariae* "Mexican Double Yellow-heads" are extremely popular as pets and sustain the greatest demand of any amazon (Clinton-Eitner, 1980), though other races are also highly valued as good talkers. Trade is a major threat and has resulted in substantial population declines, particularly in Central America. Habitat destruction has

similarly contributed to the decline in Central America and northern Colombia. This is also a commonly smuggled species with birds entering the USA illegally across the Mexican border (Ridgely, 1981).

Said to be highly prized in Panama as a cage-bird and considered the best talker among Panamanian parrots. It has consequently been much reduced near the more populated areas (Ridgely, 1976) and elsewhere in Central America, though not apparently in the Amazon Basin (Ridgely, 1979).

Collection of young from the nests was said to occur only at a low level in the Aripuani region in northern Mato Grosso (Brazil). Habitat loss was thought to be a more serious problem over large parts of the range (P. Roth, in litt., 17 December 1985).

In Georgetown, Suriname, large numbers were reported to be offered for sale in the marketplace (Forshaw and Cooper, 1978).

On the Tres Marias Islands, young parrots are taken from the nests for pets. About 20 to 30 are collected each year on Maria Madre, but export from the islands is prohibited (Konrad, 1984). It is likely that many birds identified as *tresmariae* by traders are in fact "*magna*" (Silva, 1985b) so it is not clear how severe the threat of international trade is to this subspecies. Some genuine *tresmariae* have certainly reached Europe (Low, 1986a). This species is in great demand in markets in Colima and also Mexico City. Persistent hunting and disturbance during the nesting season was thought to account for the apparent scarcity of the species (Schaldach, 1963).

In Honduras the species is said to be threatened by trade and habitat destruction. Habitat is decreasing and the pressure increases year by year. There is a very high demand for the export (up to 50 000 a year) which is only controlled by the imposition of quotas which limit the exports to 4000-4500 in peak years (Honduras CITES MA, 1985). There is a lucrative black market for this species in Belize although it is protected (Hartshorn *et al.*, 1984).

INTERNATIONAL TRADE Exports of *A. ochrocephala* from Guyana were reported to have been 495 in 1978 and 955 in 1979 (Niles, 1981). Exports from Nicaragua, reported by Morales (1987), have been small until 1985: 1981 - 43; 1982 - 54; 1983 - 55; 1984 - 37; 1985 - 197; 1986 - 409.

Minimum net imports reported to CITES rose from 3960 in 1981 to 15 202 in 1985. The main importing countries were the USA, F.R. Germany and Italy (Table 1). The majority of exports originated in Honduras, Guyana, El Salvador and Guatemala. Prior to 1983, substantial quantities were exported from Mexico (Table 2). Niles (1981) made no comment on the levels of exports from Guyana in 1978 and 1979, presumably believing them to be insignificant, but they rose considerably to six times this level in 1984.

In Honduras, quotas have to be imposed to curtail the large demand (Honduras CITES MA, 1985), but there is no indication of whether these quotas are based on any population surveys. Figures supplied by the Santa Cruz regional wildlife management authority indicate the exports of this species from Bolivia totalled 480 from 1980 to 1983, suggesting that the CITES reports may have underestimated the trade.

*Amazona ochrocephala*Table 1. Minimum net imports of live *A. ochrocephala* reported to CITES

	1981	1982	1983	1984	1985
Bahamas	-	-	-	1	-
Bahrain	-	-	-	1	-
Belgium	-	-	-	19	18
Bulgaria	-	-	-	7	-
Canada	8	4	15	33	75
China	-	-	2	-	-
Costa Rica	2	3	-	-	2
Cuba	-	1	-	-	-
Denmark	-	-	-	-	50
France	-	4	4	101	-
German D.R.	-	-	4	4	1
Germany, F.R.	918	1733	83	655	334
Gibraltar	-	-	-	1	-
Greece	-	-	-	-	1
Hong Kong	-	-	-	4	150
Hungary	2	-	-	-	2
Israel	-	-	1	-	-
Italy	6	204	150	638	19
Japan	-	-	6	40	395
Jordan	-	-	-	2	-
Kuwait	-	4	-	13	1
Netherlands	-	-	-	-	336
Netherlands Antilles	-	-	-	1	-
Oman	-	-	-	2	-
Portugal	-	1	-	-	-
Puerto Rico	-	1	-	-	2
Saudi Arabia	-	-	-	13	11
Singapore	-	-	-	-	295
Somalia	-	-	1	-	-
South Africa	12	-	-	10	-
Spain	1	6	1	1	11
Sweden	30	203	32	31	87
Switzerland	4	38	-	47	-
Tunisia	-	-	-	1	-
UK	1	2	118	112	215
USA	2905	4994	5167	7929	13183
USSR	-	-	-	3	11
Unknown	71	-	-	-	1
TOTAL	3960	7198	5584	9669	15202

*Amazona ochrocephala*Table 2. Reported countries of origin or export for exports of live *A. ochrocephala* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. ochrocephala</i>					
Belize	5	3	13	2	11
Bolivia	86	6	1	1	-
Brazil	-	-	-	3	2
Colombia	86	6	1	1	10
Costa Rica	-	2	3	3	2
Ecuador	36	31	7	100	205
El Salvador	108	718	468	1143	944
Guatemala	9	32	33	472	4814
Guyana	664	1871	1627	2922	1961
Honduras	1367	2105	2958	4759	6998
Mexico	655	1982	27	4	3
Nicaragua	23	53	22	43	197
Panama	213	140	90	51	31
Peru	-	-	2	3	2
Suriname	4	7	5	2	4
Venezuela	5	16	41	14	25
Countries without wild populations of <i>A. ochrocephala</i>					
Argentina	30	2	-	2	-
Bahamas	-	2	-	-	-
Belgium	-	94	-	-	-
France	-	-	-	-	2*
Germany, F.R.	-	-	1	-	1
Guam	-	-	-	1	-
Hong Kong	-	-	3	-	-
Hungary	-	-	-	2	-
Italy	-	2	1	-	-
Netherlands	-	-	-	-	2*
Netherlands Antilles	-	-	1	-	-
Portugal	-	-	2	-	-
Philippines	-	-	-	-	1
Puerto Rico	-	-	-	-	1
Singapore	-	-	-	1	-
South Africa	-	-	-	-	1
Sweden	-	-	-	1	-
Switzerland	1	-	-	6*	1*
Trinidad & Tobago	50	-	3	2	1
UK	-	-	-	-	1*
USA	-	-	-	3	13
Unknown	509	28	15	28	4*

* captive-bred

Amazona ochrocephala

CONSERVATION MEASURES All of the range states except Mexico are Parties to CITES. The following information was extracted from Fuller *et al.* (1987).

Belize A seven-year moratorium on commercial trade in wildlife was imposed in 1981. All except six species of birds are protected from hunting.

Brazil All wildlife exports have been banned since 1967.

Bolivia Not specifically protected or regulated, but all exports of live wildlife have been prohibited since 1 May 1984.

Colombia Commercial hunting of all birds has been prohibited since 1973 under Resolucion No. 849.

Costa Rica All commercial hunting, trade and export of non-marine wildlife has been prohibited since 1970, except for injurious species or captive-bred animals.

Ecuador All exports of indigenous wildlife have been prohibited since January 1983, except for educational or scientific purposes.

El Salvador Parrots are not protected.

French Guiana French Guiana is covered by CITES controls as an overseas department of France. From May 1986 the sale and purchase of this species has been prohibited.

Guatemala All capture and export was temporarily suspended on 24 March 1986 (CITES Notification to the Parties No. 386, 7 May 1986).

Guyana Parrots are not protected in Guyana but are open for exploitation for the local and overseas pet trade. The numbers exported are controlled by quotas; however the quotas are not determined on precise quantitative surveys (Niles, 1981). The quota for the period 1987/88 was 2300 (Thomsen, 1988).

Honduras The export of most wildlife is prohibited, except for certain species, including *A. ochrocephala*, for which quotas are set every three months. Quotas as high as 4000-4500 have been allocated in recent years (Honduras CITES MA, 1985).

Mexico Not a Party to CITES. Commercial export and import of most wildlife has been prohibited since 20 September 1982. Export of *A. o. tresmariae* from the Colonia Penal Federal De Islas Marias is prohibited by the director (Konrad, 1984).

Nicaragua Commercial hunting, export and import of most wildlife has been prohibited since 1977. Export of parrots as personal pets may be permitted. It has been proposed to allow capture and export of some parrot species from 1988 onwards, at least in some areas. The proposed annual quota for this species from the Cosigüina area is 513 (2.5% of the 1983 estimate of the population) (Morales, 1987).

Panama *A. ochrocephala* is protected in Panama; capture, hunting, sale and export has been prohibited since 1980.

Peru All commercial hunting of wildlife in the Selva region, east of the Andes has been prohibited since 1973. The species is not included in a list of parrots which are available for export (CITES Notification to the Parties No. 389, 7 May 1986a).

Amazona ochrocephala

Suriname Since 1970, hunting and trade of native birds and mammals has been prohibited except for listed game or domestic species. An annual export quota of 52 was set in 1987 (Thomsen, 1988).

Venezuela With few exceptions, all hunting of indigenous wildlife has been prohibited since 1970.

CAPTIVE BREEDING The *oratrix* group is the most popular of the three for aviculture, particularly in the USA. It has been bred frequently in small numbers. Subspecies of the *ochrocephala* group are also popular and are now commonly bred (Low, 1986a).

ALDER PARROT
TUCUMAN AMAZON

Recommended list: 2
[Possible problem]

Amazona tucumana (Cabanis, 1885)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A small amazon living at moderate altitudes on the eastern slopes of the Andes in Bolivia and northern Argentina. Migrates to lower altitudes in winter. Recent reports suggest that the species may now be rare, in contrast to earlier references which described it as common. Threatened in Bolivia by destruction of the remaining stands of *Podocarpus* forest in which it breeds. It has been suggested that current levels of trade may be in excess of sustainable levels. Very rarely bred in captivity.

International trade has increased substantially from 67 in 1981 to 2980 in 1985. The main importers were F.R. Germany, the USA and Sweden. Most of the exports in 1984 and 1985 were from Argentina. Protected in Argentina and export from Bolivia has been banned since May 1984.

Insufficient is known about the status of wild populations; in view of the restricted range of this species and the rapidly increasing exports from Argentina, suggestions that it is now rare should be investigated as a matter of urgency. Protection should be afforded to the remaining habitat in Bolivia, and steps should be taken to prohibit further exports from that country.

DISTRIBUTION Reported to have a very limited range along the east slope of the Andes from south-eastern Bolivia to north-western Argentina.

Argentina Recorded from the north-west of the country in the provinces of Jujuy, Salta and Tucuman. Earlier records from Chaco and Misiones are almost certainly erroneous (Ridgely, 1981).

Bolivia Recorded from the east slope of the Andes from northern Chuquisaca south to Tarija (Bond and Meyer de Schauensee, 1943; Ridgely, 1981).

POPULATION

Argentina Orfila (1938) considered it to have been very common in the country and Wetmore (1926) found it common on the Sierra de San Javier in western Tucuman in 1921. Ridgely (1982) failed to find any, despite considerable searching, during May and June 1977. He thought that this may have been due to chance and pointed out that G. Hoy had stated that the species was not uncommon, with winter flocks still occurring on the outskirts of Salta. However, in 1986 the wildlife authorities in Argentina stated that it was rare and in a "precritical situation" (Argentina CITES MA, 1986).

Bolivia Apparently only one record from the country, in the 1930s. Ridgely (1981) reported that he had been unable to find this species in 1977, and that D. Lanning had likewise failed to find it in January-February 1982; he considered that it was at considerable risk from habitat destruction.

HABITAT AND ECOLOGY Breeds on Andean slopes, mostly between 1000 m and 2500 m altitude in *Podocarpus* and *Alnus* vegetation. In autumn it moves to lower levels, frequently in large flocks (Olrog, 1984), and winters down to 300 m altitude (Ridgely, 1981). Food consists of fruits, seeds, nuts, berries, and probably blossoms and leaf buds, procured in the tree tops. Breeding has been reported in January, the clutch size being four eggs (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Ridgely (1981) mentioned that Bolivia intended to cut down the last remaining stand of *Podocarpus* forest in Tarija, and the

species could be at considerable risk in that country. Low (1986b) considered that current rates of imports were not sustainable.

INTERNATIONAL TRADE Minimum net imports of this species recorded in CITES Annual Reports rose from 67 in 1981 to 2980 in 1985 (Table 1). The major importing countries were F.R. Germany, the USA and Sweden. Until 1983, the main reported country of origin was Bolivia, but in 1984 and 1985 nearly all the imports originated in Argentina (Table 2). Export figures supplied by the Santa Cruz regional wildlife management authority show that the total number of *A. tucumana* exported from Bolivia from 1980 to 1983 was 1373, indicating that the CITES reports may have under-estimated the true volume of trade.

Table 1. Minimum net imports of live *A. tucumana* reported to CITES

	1981	1982	1983	1984	1985
Canada	-	-	35	16	50
Denmark	-	-	-	-	90
France	-	-	-	10	80
Germany, F.R.	55	112	-	755	588
Hong Kong	-	-	-	-	45
Hungary	-	-	-	-	200
Italy	-	-	36	-	13
Japan	-	-	-	-	50
Kuwait	-	-	-	-	1
Malaysia	-	-	-	-	2
Singapore	-	-	-	-	50
South Africa	-	2	2	-	-
Spain	-	-	-	52	10
Sweden	-	-	60	260	10
Switzerland	-	1	-	-	36
Taiwan	-	-	-	25	-
UAE	-	-	-	-	30
UK	12	-	-	-	80
USA	-	239	251	594	1645
TOTAL	67	354	384	1807	2980

Table 2. Reported countries of origin or export for exports of live *A. tucumana* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. tucumana</i>					
Argentina	-	-	60	1798	2942
Bolivia	67	354	324	9	-
Countries without wild populations of <i>A. tucumana</i>					
Peru	-	-	-	-	35
Sweden	-	-	-	-	10
Unknown	-	-	-	-	3

Amazona tucumana

CONSERVATION MEASURES Both of the range states are Parties to CITES. The information detailed below is from Fuller et al. (1987).

Argentina The species is not included in a recent list of species which are considered harmful, effective from 14 March 1986 (CITES Notification to the Parties, No. 412, 28 November 1986).

Bolivia Not specifically referred to in Bolivian legislation. All exports of live wildlife were prohibited on 1 May, 1984 and this ban is still in operation in 1988.

CAPTIVE BREEDING This species was rare in aviculture before the 1980s. Very few have been bred in captivity, and so far as is known they have only been bred by one aviculturist in the UK (Noegel, 1982; Low, 1986a; Low, 1986b).

RED-CROWNED PARROT
GREEN-CHEEKED AMAZON

Recommended list: 2
[Possible problem]

Amazona viridigenalis (Cassin, 1853)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Virtually endemic to Mexico and restricted to southern Nuevo León, southern Tamaulipas, eastern San Luis Potosi and northern Veracruz. A few recent records of possibly wild birds in southern Texas, USA and introduced populations are known elsewhere in the USA, in Puerto Rico and the Hawaiian Islands. In 1980 it was considered to be fairly common locally but it was thought that a large overall decline in numbers had taken place in recent years. A census in 1983 also found it common in some areas but it was thought that numbers had decreased during the previous decade, due to both extensive habitat destruction and large-scale exportation. Inhabits arid, tropical lowlands and dry, open pine-oak ridges.

The recorded trade during 1981-85 showed an increase from 586 in 1981 to 1727 in 1982, and then a sharp decline to 99 in 1983 and virtually nil in 1984 and 1985. Commercial export of birds from Mexico was banned on 20 September, 1982.

Whilst the ban on exports is in operation trade is unlikely to affect the species but the ban may be only temporary in nature. The situation needs continual monitoring.

DISTRIBUTION Virtually Endemic to north-eastern Mexico.

Mexico From Lake Vicente Guerrero in central Tamaulipas southwards to Tamazunchale, Veracruz (Clinton-Eitniear, 1986). Nuevo Leon (Monterey, Montemorelos, Rio Comacho, Chitra); Tamaulipas (El Union, Sierra Madre above Victoria, Forlon, Rio Martinez, Rio de la Cruz, Santa Leonor, Sota la Marina, Tampico, Tamesi and Tautina near Tampico, Alta Mira); Vera Cruz (Rio Tamesi near Rayon, Colipa, Misantla); San Luis Potosi (Valles) (Ridgway, 1916).

Puerto Rico Recently introduced; known from Rio Piedras, Vega Baja, Rincon and Salinas (Raffaele, 1983).

USA There have been several recent sight records in southern Texas, in the lower Rio Grande Valley north-west to Falcon Dam, apparently referable to wild vagrants, although the possibility of escaped cage birds cannot be excluded. Also introduced and established in the Los Angeles area of southern California and Dade County, southern Florida. A small group persisted from 1970 onwards in Oahu, Hawaiian Islands (American Ornithologists' Union, 1983).

POPULATION

Mexico Clinton-Eitniear (1986) summarised the status of the species as frequently encountered, but having declined over the past ten years, being especially abundant along the eastern coast near the Sierra de Tamaulipas and on the eastern slopes of the Sierra Madre. Ridgely (1981) considered that it remained fairly common although long-term observers agree that a large overall decline has taken place in the last several decades, scattered pairs now remaining in areas which formerly held flocks of several hundred. Described as common (Edwards, 1972) and rather common and conspicuous (Blake, 1953). Sutton and Pettingill (1942) reported that the species was noted daily in the Gomez Farias region. In San Luis Potosi, Sutton and Burleigh (1940, see Forshaw and Cooper, 1978) found that it was uncommon in the vicinity of Valles and infrequently noted along the Axtla River. Martin *et al.* (1954) found it to

Amazona viridigenalis

be common in the Sierra de Tamaulipas in 1949. In the floodplain of the Rio Corona, Tamaulipas, Gehlbach et al. (1976) recorded a density of 4 to 5 breeding males per 8 ha. Clinton-Eitniew (1986) found that the species had declined dramatically in numbers along the Rio Corona between 1978 and 1985. Populations along the other rivers draining into Lake Vicente Guerrero had similarly declined. It was frequently observed along the Rio Sabinas valley, and bird counts in a circle of diameter of ten miles (16 km) around Gomes Farias gave an average population of 153 *A. viridigenalis* between 1972 and 1981. The population appeared to be stable if not declining slightly. A similar census over ten years at El Naranjo gave a mean population of 127 in a circle of a diameter of 12 miles (19.3 km). Here the population was thought to be more secure, although wide annual fluctuations were reported owing to irregular nomadic movements. The species was much less abundant in the summer when the large winter feeding flocks had dispersed, the same area supporting only 15 breeding pairs. Southwards into Veracruz it was much more sparsely distributed. Near Presa de Espanol, north of Aldama, larger numbers were present, but the population had declined between 1979 and 1983, probably because of habitat destruction (Clinton-Eitniew, 1986). Reported to be still rare in Puerto Rico (Raffaele, 1983). In 1985 the population density of a study area in Tamaulipas was estimated to be 0.115 ± 0.073 birds per hectare (Perez and Eguiarte, 1986).

HABITAT AND ECOLOGY. Favours gallery forest and deciduous woodland in the lowlands and foothills up to about 1200 m for nesting, feeding and roosting, although also found in reduced numbers in agricultural land (Ridgely, 1981). Occasionally ranges out over arid, open pine-oak ridges. In winter, often seen in large flocks, but these disperse in the breeding season (Clinton-Eitniew, 1986). Nesting occurs in March-April, usually in old woodpeckers' holes (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Clinton-Eitniew (1986) attributed the observed population declines to extensive habitat destruction and large-scale export. Ridgely (1981) related how much of the small range had been modified for agricultural use, particularly sorghum, and the gallery forests, critical for nesting feeding and roosting, were being destroyed outright. No substantial area of habitat has yet received protection. All of the gallery forests in the middle and lower Rio Corona have been drowned by a new reservoir and those in the upper drainage have mostly been cleared. Capture of young birds for the export market is also a very serious threat. Ridgely (1981) considered that in recent years many thousands of birds annually were exported, mostly to the USA.

INTERNATIONAL TRADE Minimum net imports reported to CITES rose to 1727 in 1982, but then fell to 99 in 1983 and virtually nil in 1984 and 1985. The main importing countries were the USA, F.R. Germany and Sweden (Table 1). Almost all the exports originated in Mexico, although 29 birds were reported from Guyana; these may have resulted from misidentification (Table 2). The dramatic reduction in trade coincided with an export ban imposed in Mexico, which therefore appears to have been effective.

CONSERVATION MEASURES Mexico is not a Party to CITES. Commercial export and import of most wildlife has been prohibited since 20 September 1982 (Fuller et al., 1987). Ridgely (1981) highlighted the very urgent need for the establishment of a reserve to protect some of the rapidly declining range of this species. He felt that it should be considered for inclusion in the Red Data Book.

CAPTIVE BREEDING Better known in the USA than in Europe in aviculture. It has bred in captivity on several occasions, particularly in the USA, although success has recently been experienced in Europe (Low, 1986a; Wozniak and Lantermann, 1984).

*Amazona viridigenalis*Table 1. Minimum net imports of live *A. viridigenalis* reported to CITES

	1981	1982	1983	1984	1985
Canada	-	20	-	-	-
Germany, F.R.	112	305	-	-	-
Netherlands	-	-	-	1	1
South Africa	-	2	9	-	-
Spain	-	-	-	-	1
Sweden	-	169	-	1	-
Switzerland	2	14	-	-	-
UK	8	70	11	-	1
USA	464	1147	79	-	1
TOTAL	586	1727	99	2	4

Table 2. Reported countries of origin or export for exports of live *A. viridigenalis* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. viridigenalis</i>					
Mexico	586	1706	86	-	1
Countries without wild populations of <i>A. viridigenalis</i>					
Brazil	-	1	-	-	-
Germany, F.R.	-	-	-	-	1*
Guatemala	-	-	-	1	-
Guyana	-	19	10	-	-
Netherlands	-	-	1	-	-
Philippines	-	-	-	-	1*
Zimbabwe	-	-	1	-	-
Unknown	-	2	-	1	2

* = captive bred

HYACINTH MACAW

Recommended list: 1*
[Problem]

Anodorhynchus hyacinthinus (Latham, 1790)

Order PSITTACIFORMES

Family PSITTACIDAE

* Transferred to CITES Appendix I in 1987

SUMMARY AND CONCLUSIONS The largest species of parrot in the world; virtually confined to southern Brazil, particularly in the Mato Grosso, where it inhabits semi-open, usually swampy areas. The population in Bolivia is small and in 1987 only two birds were known to exist in Paraguay. Although locally fairly common, serious population declines have occurred in Brazil, primarily as a result of collecting for the pet trade. Not seriously threatened by current forms of habitat alteration. Very rarely bred in captivity.

International trade reported to CITES fluctuated between 27 and 397 in the years 1981 to 1985, the USA being by far the major importer. The reported origin of most of the macaws was Bolivia. Banned from export in all countries of origin.

In view of the fact that it is protected in all countries of origin, and that populations appear to be declining rapidly, no further trade in this species should be permitted.

DISTRIBUTION Found principally in the centre of Brazil, south of the Amazon, but also recorded from the extreme north-west of Paraguay and the east of Bolivia.

Bolivia Recently recorded from the extreme east near San Matias in Santa Cruz, and it was suggested, without any evidence, that it might occur southwards in similar pantanal habitat along the Rio Curiche Grande (Remsen and Ridgely, 1980). In 1987 found in two areas in the Pantanal (Munn et al., 1987).

Brazil Formerly found over much of the interior south of the Amazon; from southern Piaui and Para (probably also Maranhao), western Bahia and Minas Gerais, most of Goias and Mato Grosso, except the north-west. An old report from north of the Amazon is disputed (Ridgely, 1981). In 1987 it was found to be restricted to three isolated areas: (i) the Pantanal in south-west Mato Grosso; (ii) the drainages of the Xingu, Araguaia and Tocantins Rivers from Ilha de Marajo in northern Para south to the Parque Araguaia in western Goias; (iii) a relatively dry area at the intersection of the four states of Goias, Piaui, Maranhao and Bahia (Munn et al., 1987).

Guyana Niles (1981) suggests that the species occurs in Guyana, but this is almost certainly erroneous (Ridgely, 1981).

Paraguay Said to occur, at least seasonally, in the extreme north-east, apparently having crossed over from the adjacent Mato Grosso (Ridgely, 1981). In 1987 only known from one site in northern Paraguay (Munn et al., 1987).

POPULATION

Bolivia In 1987 the population was estimated to have been probably between 100 and 300 (Munn et al., 1987).

Brazil Ridgely (1981) describes this species as uncommon to fairly common locally, saying that it has greatly decreased or has even been extirpated in virtually any settled region, and that a substantial population decline has

occurred. Roth (*in litt.*, 17 December 1985) asserts that the population decline has been drastic, and is continuing. Nores and Yzurieta (1983) said the species was still common in the Pantanal of Mato Grosso but that it had declined in various other parts of Brazil, especially in Goias and Minas Gerais. Small numbers were seen in the Tukurui area, Para 1984 (Johns, 1986). Sick (1984) cautioned that if the species was not already rare, it soon would be. In 1987 the populations of the three isolated areas were estimated as follows: (i) Pantanal, about 1200; (ii) rivers in Para, about 750; (iii) area at intersection of Goias, Piaui, Maranhao and Bahia, about 1000 (Munn *et al.*, 1987).

Paraguay In 1987 only two birds were known to exist in the country (Munn *et al.*, 1987).

HABITAT AND ECOLOGY. The largest parrot in the world, this species prefers gallery forest and semi-open areas, particularly in swamps (pantanal). Also found in cerrado, deciduous woodland, and, at least locally, in Buriti Palm (*Mauritia flexuosa*) swamps, but shuns continuous, humid forests (Ridgely, 1981). The macaws have been reported to be invariably seen in pairs (Naumburg, 1930), although other observers report small groups (Remsen and Ridgely, 1980). Food consists mainly of seeds, nuts and fruits. Nesting probably occurs in the hollow trunks of palm trees (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL The chief threat appears to be hunting, either taking young from the nests or using lime sticks at roosts (Ridgely, 1981; Sick, 1984). The species has always been most numerous in the Pantanal, and it is here that the trapping has been reported to be most intense, as it is closest to Corumba, whence birds were smuggled to Santa Cruz, the main exporting centre in Bolivia, or down the River Paraguay to Asuncion, which fulfils a similar role in Paraguay (Ridgely, 1981). The capture of adults is particularly damaging. Substantial hunting is reported to occur in southern Maranhao and Piaui, although the Pantanal is the main area (P. Roth, *in litt.*, 17 December 1985). In 1987 it was found that the most severe drain on wild populations during the previous decade had been capture for trade. In the Pantanal this has been the only threat to the species, but in the drier area of north-east Brazil, where animal protein is less readily available, the bird is occasionally shot for meat. In this area, and in Para, habitat destruction is a less important threat, and some shooting for feathers used in ceremonial head-dresses takes place (Munn *et al.*, 1987).

Habitat destruction is not thought to be much of a problem, as the favoured environments (gallery forest and swamps) tend to be less desirable for agriculture, being used only for grazing, which is not very damaging to the macaws (Ridgely, 1981).

INTERNATIONAL TRADE International trade in *A. hyacinthinus* from 1970 to 1979 was analysed by Nilsson and Mack (1980); they reported that the total trade volume increased from 2 in 1970 to 522 in 1978, falling again to 72 in 1979. However these figures may have under-estimated the true volume. From August 1978 to January 1979 at least 240 *A. hyacinthinus* were reported to have been imported to Los Angeles alone from Paraguay, with a further 100 from Bolivia; far more were imported to other American cities, such as Miami. The retail price in the USA was US\$5000-7000 in 1979 (Ridgely, 1979), and in the UK in 1986 it was £2250.

Minimum net imports of *A. hyacinthinus* reported to CITES are summarised in Table 1. The total volume fluctuated between 27 and 397 in the years 1981 to 1985, the USA being by far the major importer. The reported origin of most of the macaws (Table 2) was Bolivia, although this source declined in importance in 1984 at the expense of Brazil, Paraguay and Uruguay.

Anodorhynchus hyacinthinus

Export figures supplied by the Santa Cruz regional wildlife management authority showed that a total of 637 *A. hyacinthinus* were exported from Bolivia from 1980 to 1983 which is slightly fewer than were indicated in the CITES reports.

Table 1. Minimum net imports of live *A. hyacinthinus* reported to CITES

	1981	1982	1983	1984	1985
Belgium	-	-	-	30	-
Canada	-	1	14	-	-
Denmark	-	2	2	-	-
France	-	-	-	16	-
German D.R.	-	-	2	-	1
Germany, F.R.	99	7	-	-	-
Greenland	-	-	-	-	1
Italy	-	10	6	36	-
Japan	-	-	-	2	-
Kenya	-	-	2	-	-
Philippines	8	2	-	-	-
South Africa	1	11	-	-	5
Spain	-	-	-	1*	-
Suriname	-	2	-	-	-
Sweden	-	12	-	-	-
Thailand	-	4	-	-	-
Switzerland	1	27	13	7	11
UK	7	1	-	-	-
USA	97	318	249	38	9
USSR	-	-	-	2	-
TOTAL	213	397	288	132	27

Table 2. Reported countries of origin or export for exports of live *A. hyacinthinus* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. hyacinthinus</i>					
Bolivia	150	382	260	52	6
Brazil	8	7	10	19	5
Paraguay	-	-	-	-	10
Countries without wild populations of <i>A. hyacinthinus</i>					
Belgium	-	-	4*	-	-
Dominican Republic	1	-	-	-	-
Germany, F.R.	-	-	-	-	4*
Spain	-	-	-	-	1*
Uruguay	-	-	-	36	-
USSR	-	-	-	2	-
Unknown	63	8	2	1	1

* = captive bred

Anodorhynchus hyacinthinus

The figures for imports to the USA recorded in the CITES Annual Reports are in some cases apparently much lower than the actual trade figures. Nilsson (1985), using quarantine mortality forms, arrived at the following figures:- 1981: 428, 1982: 522, 1983: 431, 1984: 1. This gives a total for the four years of 1382 compared with the total from the CITES reports for the same period of 702. Of the former total 1 264 originated in Bolivia and 80 (in 1981) in Paraguay.

The recorded level of trade seems insufficient to account for the reports of continuing and substantial collection and smuggling in Brazil, suggesting either that the latter are exaggerated or that there is much unrecorded trade. The macaw is too large and striking when adult to permit systematic misidentification at Customs, although it is possible, albeit unlikely, that chicks might be passed off as other species.

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information was extracted from Fuller et al. (1987) unless otherwise indicated.

Bolivia Listed as a protected species under Decreto Supremo No. 16605 in 1979. All exports of live wildlife have been prohibited since 1 May, 1984.

Brazil All exports of wildlife have been prohibited since 1967. The species occurs in several reserves, notably the Cara-Cara Reserve, Mato Grosso, and Araguaia National Park, Goias, neither of which is entirely secure (Ridgely, 1981).

Paraguay All exports of wildlife have been prohibited since 1975.

CAPTIVE BREEDING Hyacinth Macaws were rare in aviculture before the 1970s, and the first captive breeding occurred in 1967. Since then, sporadic breeding has occurred in zoological collections but very few people have been consistently successful with this species (Low, 1986a).

Up until 1986 only three aviculturists had successfully bred the species in the UK (Low, 1986c).

RED-WINGED PARROT

Recommended list: 2
[Possible problem]

Aprosmictus erythropterus (Gmelin, 1788)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS This is probably a monotypic species that is confined to northern and north-eastern Australia, south-west Papua New Guinea and south-east Irian Jaya, Indonesia. Recorded as common in Australia and fairly common in New Guinea, but there is little recent information from Irian Jaya, the source of all wild-collected birds recorded in CITES trade. It is a coastal bird in New Guinea confined to a strip of coast about 400 km in length, over half of which is contained within reserves. It was seen occasionally in these reserves in 1983 and it was noted that it was 'systematically trapped for the export bird trade'. Inhabits wooded savannahs, open woodland and mangroves.

The recorded trade during 1981-85 amounted to several hundred per year with a maximum of 629 in 1984. Virtually all originated in Indonesia but some captive-bred birds were involved. It is not protected in Indonesia but capture and export are regulated by a licensing system. No commercial exports are allowed from Papua New Guinea and Australia.

The species has a reputation of being short-lived and generally a poor breeder in captivity and, since it is a desirable species only available from Indonesia, the continuing in wild-caught birds trade may seriously affect the species, at least locally.

DISTRIBUTION Northern and north-eastern Australia, as far south as northern New South Wales and north-eastern Australia; southern Papua New Guinea and Irian Jaya, Indonesia (Forshaw and Cooper, 1978).

The species has been divided into three races: the nominate race from eastern Australia (from about Cooktown, northern Queensland, south to north-eastern South Australia and the interior of northern New South Wales), *A. e. coccineopterus* (Gould) from northern Australia (including some offshore islands, from the Kimberly division of Western Australia east to Cape York Peninsula and the interior of northern Queensland, where it merges with *erythropterus*) and *A. e. papua* (Mayr and Rand) from New Guinea (coastal areas from Princess Marianne Straits, Irian Jaya, east to the Oriomo River, Papua New Guinea) (Forshaw and Cooper, 1978). Forshaw and Cooper (1978) stated that *A. e. papua* was probably not distinct from *A. e. coccineopterus* and further research by Mees (1982) concluded that there was no character by which birds from New Guinea could be distinguished from Australian specimens. Furthermore Frith and Hitchcock (1974) showed that *A. e. coccineopterus* could not be distinguished from the nominate race and Mees (1982) therefore concluded that all evidence suggests that *Aprosmictus erythropterus* cannot be divided into subspecies.

Australia

Western Australia: widespread in the Kimberley division, south to Nicholson, the St George and Edgar Ranges and along the coast from Roebuck Bay south to Anna Plains (Storr, 1980). Found in the north of the north-west division of Western Australia (Butler, 1978). Recorded on islands in the Sir Graham Moore, Osborne and Kingfisher Groups and in the Bonaparte and Buccaneer Archipelagos (Forshaw and Cooper, 1981).

Aprosmictus erythropterus

Northern Territory: Ranges over the northern third of the Northern Territory, south to the Negri and Camfield Rivers, Dunmarra, the headwaters of the MacArthur River and the Nicholson River drainage, with occasional extralimital records from farther south. Recorded on Melville Island, Crocodile Islands, Groote Eylandt and the Sir Edward Pellew Group (Storr, 1977).

Queensland: The interior of north Queensland to Cape York Peninsula, except the rainforests of the central-eastern coast. Throughout the interior of southern and central Queensland and towards the coast around Rockhampton and between Townsville and Cooktown in the north. Recorded in the west from Mount Isa, Barcaldine, the Windorah district and the lower Diamantina River in the far south-west (Storr, 1973).

South Australia: Occasionally recorded from the north-eastern sector of South Australia, between Goyder's Lagoon on the lower Diamantina River and Innamincka south to about Renmark (Condon, 1968).

New South Wales: Widely distributed west of the Dividing Range and south to about an arbitrary line from Gunnedah through Dubbo, Nymagee and Menindee to the South Australian border, with extralimital records from as far south as Mudgee and Hay (Forshaw and Cooper, 1978).

Indonesia Southern Irian Jaya, from Princess Marianne Straits east through coastal areas, reaching about 35 km inland, to the border with Papua New Guinea (Rand and Gilliard, 1967). However, Bishop (1984) recorded the species as occurring in the Pulau Kimaam and Wasur reserves in south-east Irian Jaya; the Palau Kimaam reserve covers a large area of Dolak, west of the Princess Marianne Straits.

Papua New Guinea From the border with Irian Jaya east, within about 35 km of the south coast, to the Oriomo River (Rand and Gilliard, 1967).

POPULATION No estimates of total population size or overall status are available.

Australia Generally common throughout its range (Forshaw and Cooper, 1978; Australia CITES MA, 1986).

Western Australia: Found to have been moderately common in the Prince Regent Nature Reserve in Kimberley division in 1974 (Storr et al., 1975), although a similar survey in 1975 of nearby Drysdale River National Park found it locally common though generally scarce (Johnstone et al., 1977).

Northern Territory: Moderately common (Storr, 1977).

Queensland: Fairly common in areas of moderate rainfall but less numerous towards both the arid and the more humid limits of its range (Storr, 1973). Thomson (1935) found the species to have been numerous throughout most of Cape York Peninsula.

South Australia: Rare (Forshaw and Cooper, 1981).

New South Wales: Moderately common (Morris and McGill, 1980).

Indonesia Observed in large numbers in 1960 along the Kumbe River, south Irian Jaya (Hoogerwerf, 1964). Occasionally recorded in the Pulau Kimaam and Wasur reserves, south-east Irian Jaya (Bishop, 1984).

Aprosmictus erythropterus

Papua New Guinea Locally fairly common in coastal areas, often seen in parties of 10-20 birds (Rand and Gilliard, 1967; Coates, 1985).

HABITAT AND ECOLOGY. In Australia they inhabit open *Eucalyptus* forest, timber bordering water-courses, *Melaleuca* woodland, arid *Acacia* scrublands and groves of *Casuarina* or *Callitris* trees along rocky ridges or dispersed throughout open sandy country. They occur in mangroves along the northern coast but avoid dense forest (Forshaw and Cooper, 1978). In New Guinea they occur in wooded lowland savannah within about 35 km of the coast (Rand and Gilliard, 1967).

Usually found in pairs or in small family groups, but flocks of about 60 have been reported in the non-breeding season (Blakers et al., 1984) and flocks of several hundreds of these birds were reported to have been observed in April in coastal southern New Guinea (Rand and Gilliard, 1967). The species although largely sedentary has been described as nomadic, its irregular movements being especially obvious along the edges of its range. An arboreal feeder, normally observed in the treetops or among the outer branches of shrubs.

Diet reportedly consists of seeds, fruits, berries, nuts, blossoms, nectar and insects and their larvae. Described as particularly fond of *Eucalyptus* and *Acacia* seeds, mistletoe berries, seeds of *Dodonaea* spp. and *Grevillea* blossoms (Forshaw and Cooper, 1981). Described as a pest of rice and taro crops in Irian Jaya (Bishop, 1984) and reported to feed on ripening grain in cultivated areas in Australia (Forshaw and Cooper, 1981).

THREATS TO SURVIVAL

Australia Although fully protected in Queensland it is apparently frequently trapped and traded unlawfully and also killed by graingrowers due to alleged crop damage (Australia CITES MA, 1986). In some areas the species seems to have benefited from partial clearing of rainforest (Blakers et al., 1984).

Indonesia Systematically trapped for the export trade (Bishop, 1984).

Papua New Guinea None known.

INTERNATIONAL TRADE A desirable aviary bird because of its colourful plumage; however it has been reported to be short-lived in captivity (Forshaw and Cooper, 1981). Listed in CITES Appendix II in 1981.

The minimum average volume of world trade can therefore be estimated to have been 500 live birds each year. The main importing countries were the Federal Republic of Germany and the United States. In addition to the trade detailed in tables 1 and 2, the USA reportedly imported 13 dead specimens of this species from Australia (2) and Indonesia (11).

The majority of the birds in trade were reported either to have originated in Indonesia or to have been bred in captivity. Exports from Indonesia as reported to CITES can be compared with those recorded by the Indonesian Department of Nature Conservation: 1981 - 335, 1982 - 400, 1983 - 226, 1984 - 450 (Indonesia CITES MA, 1986). These data do not correlate closely with those reported to CITES.

*Aprosmictus erythropterus*Table 1. Minimum net imports of live *A. erythropterus* reported to CITES

	1981	1982	1983	1984	1985
Austria	-	-	-	-	12
Canada	-	-	-	10	21
Cayman Islands	-	-	-	-	3
Czechoslovakia	-	-	-	2	-
Denmark	-	-	35	95	-
France	-	-	-	-	40
Germany, F.R.	275	100	220	84	20
Iraq	-	-	-	2	-
Italy	-	4	2	2	-
Ivory Coast	-	-	-	12	-
Japan	-	-	30	39	24
Netherlands Antilles	-	-	-	2	-
Oman	-	-	-	1	-
Saudi Arabia	-	-	-	9	-
Singapore	33	-	-	-	-
South Africa	3	6	-	5	26
Spain	-	-	-	4	-
Sri Lanka	-	-	-	-	2
Sweden	-	-	-	11	40
Switzerland	4	19	-	-	-
Taiwan	-	-	-	10	-
UK	-	-	10	11	40
USA	180	222	109	330	430
TOTAL	495	351	406	629	618

Table 2. Reported countries of origin or export for exports of live *A. erythropterus* reported to CITES..

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. erythropterus</i>					
Indonesia	495	345	393	562	592
Countries without wild populations of <i>A. erythropterus</i>					
Belgium	-	2*	-	2*	6*
Canada	-	-	1	-	-
German D.R.	-	-	-	13	-
Germany, F.R.	-	-	4*	-	-
Netherlands	-	-	6*	38*	14*
Singapore	-	-	-	-	6
South Africa	-	-	-	6*	-
Switzerland	-	-	-	2*	-
Unknown	-	4	2	-	-

* = captive bred

Aprosictus erythropterus

CONSERVATION MEASURES

Australia Protected from commercial export by the Wildlife Protection (Regulation of Exports and Imports) Act 1982.

Indonesia Not protected, however recent legislation requires permits to be obtained from the Director General of Forest Protection and Nature Conservation (PHPA), in order to legally catch, own, breed, or transport non-protected wildlife species (Decree of the Minister of Forestry No. 66 Kpts-11/1983). Quotas are set for the legal harvest of parrots; the quota set for this species was 500 in 1984, 1000 in 1985 and 700 in 1987 (Anon., 1984a; Anon., 1985; Anon., 1987a). No information has been provided explaining the basis for setting the quotas; apparently periodic population surveys are not carried out (Indonesia CITES MA, 1987; Milton and Marhadi, 1987).

Occurs in two large reserves in south-east Irian Jaya (Bishop, 1984).

Papua New Guinea A 'restricted' species, protected since 1981 (the date of its inclusion in CITES Appendix II) from commercial export under the Customs (Prohibited Exports) Regulations 1973 and the International Trade (Fauna and Flora) Regulations 1981 (Parker, 1981).

Large areas of suitable habitat are protected in southern Papua New Guinea in the Tonda Wildlife Management Area, Bensbach (Bishop, 1984).

CAPTIVE BREEDING First recorded to have been bred in captivity in 1881 in France. Some pairs have been prolific breeders although many others never breed (Low, 1986a).

OLIVE-SHOULDERED PARROT
TIMOR RED-WINGED PARROT

Recommended list: 2
[Possible problem]

Aprosmitcus jonquillaceus (Vieillot, 1817)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Of the two subspecies, one occurs on Timor and Roti, whilst the other is confined to Wetar in the Lesser Sundas, Indonesia. Adjudged to be fairly common on Timor in 1972 but almost nothing is known about the status on Roti (first recorded in 1969) and Wetar (nothing published since original description in 1891). Found in primary and secondary forest and savannah woodland.

The recorded trade during 1981-85 varied from 46 in 1983 to 454 in 1984. It is not protected in Indonesia but capture and export are regulated by a licensing system.

If trade is to continue the status of the populations should be determined by instituting surveys.

DISTRIBUTION Confined to Indonesia: Timor, Roti and Wetar Islands in the Lesser Sundas (Forshaw and Cooper, 1978).

A. j. jonquillaceus Timor (Mayr, 1944) and Roti, from where the only record has been one pair and two young captured in 1969 (Verheijen, 1976).

A. j. wetterensis (Salvadori, 1891). Known only from Wetar (White and Bruce, 1986).

POPULATION Largely unknown. In 1972, Bruce (in Forshaw and Cooper, 1978) found the species to be fairly common and widespread on Timor. It was only recently discovered on Roti. The status of the species on Wetar is unknown as no further information seems to have been published since the original account. Wetar was reportedly visited by an FAO/UNDP survey team in 1980 (White and Bruce, 1986), but no information has apparently been published.

HABITAT AND ECOLOGY. On Timor in 1931/32, Stein (in Mayr, 1944) collected specimens from the coast up to about 2600 m on Mt Ramclan and more recently, in 1972, Bruce (in Forshaw and Cooper, 1978) observed this species in primary and secondary forests and savannah woodland, up to about 2200 m.

THREATS TO SURVIVAL No information. The Indonesian Department of Nature Conservation stated that the harvest of this species was under control (Indonesia CITES MA, 1986).

INTERNATIONAL TRADE Most uncommon in aviculture until the early 1970s, since when it has quite often been imported to Europe (Low, 1986a). Listed in CITES Appendix II in 1981.

According to CITES data the main importers were the Federal Republic of Germany and the United States.

The CITES data can be compared with the numbers reported by the Department of Nature Conservation to have been exported from Indonesia: 1981 - 240, 1982 - 240, 1983 - 65, 1984 - 254 (Indonesia CITES MA, 1986). These figures show reasonable correlation with those reported to CITES in 1982 and 1983. The reason for the discrepancy between the figures for 1981 is unknown.

The volume of trade for 1984 is within the quota of 500 set for that year (see below).

Aprosmitus jonquillaceus

Table 1. Net imports of live specimens reported by CITES Parties.

	1981	1982	1983	1984	1985
Germany, F.R.	400	175	10	120	95
Singapore	-	20	-	-	-
Spain	-	-	-	4	-
Switzerland	-	10	-	-	-
USA	-	90	36	330	54
TOTAL	400	295	46	454	149

Table 2. The origin, or where no origin is given, the exporter of the reported transactions.

	1981	1982	1983	1984	1985
Indonesia	400	295	45	454	149
Countries without wild populations of <i>A. jonquillaceus</i>					
Canada	-	-	1	-	-
USA	-	10 *	-	-	-

* - captive bred.

CONSERVATION MEASURES Not protected, however recent legislation requires permits to be obtained from the Director General of Forest Protection and Nature Conservation (PHPA), in order to legally catch, own, breed or transport non-protected wildlife species (Decree of the Minister of Forestry No. 66 Kpts-11/1983). Trade is monitored by the Directorate General of Forest Protection and Nature Conservation (PHPA), Directorate of Nature Conservation, Subdirectorate of Species Conservation (Bogor) (Petocz, 1984). Annual harvest quotas are set for each species. In 1984 the quota was 500 (Anon., 1984a), in 1985 it was 750 (Anon., 1985) and in 1987 it was 75 (Anon., 1987a). No information has been provided explaining the basis for setting the quotas; apparently periodic population surveys are not carried out (Indonesia CITES MA, 1987; Milton and Marhadi, 1987).

CAPTIVE BREEDING First bred in captivity in the Federal Republic of Germany in 1974, and in the United Kingdom in 1975; bred to the third generation in Switzerland (Low, 1986a).

BLUE-AND-YELLOW MACAW

Recommended list: 2
[Possible problem]

Ara ararauna (Linné, 1758)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A monotypic species found in Panama, Colombia, Venezuela, Guyana, Suriname, French Guiana, Brazil, Bolivia, Ecuador and Peru. It used to occur on Trinidad but became extinct about 1970, mainly due to trapping. It is listed by some authors, as occurring in Argentina and Paraguay but there are no confirmed records. In 1980 it was described as remaining common over much of the heart of its range, especially in Amazonia and the Guianas. It had, however, declined around many population centres and in the peripheral parts of its range. Other authors, referring specifically to its status in Colombia, Guyana, Peru and Suriname, have recently considered it to be uncommon or threatened. Inhabits varzea or gallery forest along rivers or lakes, buriti palm *Mauritia* swamps and, in some areas, deciduous forest.

The recorded trade during 1981-85 ranged from 2326 in 1985 to 8108 in 1983, mainly originating in Bolivia and Guyana. The species is protected in Colombia, French Guiana, Panama and Venezuela. Export is banned in Brazil, Ecuador, Peru and (from 1 May, 1984) Bolivia. Trade is regulated in Suriname and Guyana.

Although the species remains apparently common in some areas, it is still much in demand in international trade. Its decline in parts of its range especially near centres of habitation indicates that trade, as well as habitat destruction, is affecting populations of the species, at least to some extent.

DISTRIBUTION Ranges from eastern Panama, east through northern Colombia and across all of Amazonia, also north into southern Venezuela and the Guianas. To the south it extends into northern Bolivia and interior central and north-eastern Brazil. It is known west of the Andes only from south-western Ecuador. It is probably extinct in Trinidad. Ridgely (1982) stated that the species' reported occurrence in Paraguay (Laubmann, 1939) and Argentina (Forshaw and Cooper, 1978) has not been fully substantiated and that the few old specimens from these countries were probably imported along the Paraguay River from Brazil. Confusion with *Ara glaucogularis* was also thought likely.

Bolivia Found in the Amazon basin of northern and eastern Bolivia (West, 1979). Found in tropical forest, Sabanas, Gran Chaco and Yungas ornithological zones (Mercado, 1985). Distributed in the north of Santa Cruz, Beni, Pando, Cochabamba and La Paz (Nores and Yzurieta, 1984b). Observed in the Amboro National Park, Santa Cruz (Clarke, 1985).

Brazil Found over a vast area across virtually all of Amazonia and south and east to western Bahia and the upper Paraguay River basin in northern and western Mato Grosso and southern Goias, south at least formerly to eastern Sao Paulo. Also formerly occurred on the coast in southern Bahia south to Rio de Janeiro and possibly further north (Ridgely, 1982).

Colombia Pacific coast from south-east Panama border east across the lower Atrato Valley and north of the Andes to southern Atlantico, the western base of the Santa Marta mountains, the western base of the Perija Mountains (to 11°N), and south to the Nechi drainage and Puerto Berrio in the middle Magdalena Valley; east of the Andes southwards from western Caqueta and Puerto Inirida in north-east Guainia (Hilty and Brown, 1986).

Ara ararauna

Ecuador Found widely in the eastern lowlands, but not apparently the foothills; also an isolated occurrence in the south-west, where it is recorded from the Rio Peripa in Manabi and in Guayas (Ridgely, 1982).

French Guiana Mainly restricted to coastal swamps and swamp forest in the region of Kaw, the lower Oyapock and perhaps west to the mouth of the Comté River. Locally distributed in the interior; recorded from Arataye, Trois Sauts and observed near the lower Litany (Thiollay, in press). Collected near the Marouini River in 1961 (Berlioz, 1962).

Guyana Widespread from Abary savannas, woods along coastal rivers, Morawhanna to Courantyne River, Blairmont, Bartica and the Pacaraima Mountains (Snyder, 1966).

Panama Found in extensively forested and essentially unsettled areas in lowlands on the Pacific slope in eastern Panama province (upper Bayano River valley, above Majé) to eastern Darién (mainly in the drainage of the Tuirá and Chucunaque Rivers); Cerro Pirre (Wetmore, 1968; Ridgely, 1976).

Peru Found widely in the eastern lowlands, though not occurring in foothill areas or near the base of the Andes (Ridgely, 1982). Observed at the Cocha Cashu Biological Station, Manu National Park (Terborgh et al., 1984).

Suriname Recorded in Raleigh Falls/Voltzberg National Park (Donahue and Pierson, 1982). Observed several times in small numbers in December 1968 at Coeroeni Airstrip, Nickerie near the western border of the country (Scharringa, 1974).

Trinidad and Tobago Ffrench (1973) reported that it was confined to the vicinity of Nariva swamp in Trinidad, resident in very small numbers. Flocks of up to 15 birds were reportedly seen in 1959 but by the early 1970s only occasional pairs were seen. More recently (Ffrench, 1985) reported that observations during the 1970s were uncorroborated and that it seemed certain that the species had ceased to exist in the wild on Trinidad. Not found on Tobago (Junge and Mees, 1958).

Venezuela Distributed locally in the tropical zone; recorded from eastern Monagas; middle Delta Amacuro; southern Amazonas (Cerro Yapacana, headwaters of the Rio Siapa at the Brazilian border) (Meyer de Schauensee and Phelps, 1978). Not found in seemingly suitable terrain in the Maracaibo basin or in Bolivar (Ridgely, 1982).

POPULATION Ridgely (1981) says that the species remained common over much of the heart of its range especially in Amazonia and the Guianas. Nores and Yzurieta (1984b) describe the species as having declined or disappeared from the most populated areas and Forshaw and Cooper (1978) stated that it was still common in forests in more remote parts of its range, but that it had declined in numbers or disappeared altogether from accessible regions.

Bolivia Olrog (1963a) found it common in 1959-1960 in transition woodland at Los Llanos de Los Mojas in the departamento of Beni. Still common in northern Bolivia, although it was thought that continued trapping for export would soon cause a serious population decline (Nores and Yzurieta, 1984b).

Brazil Described in 1951 as abundant in Brazil (Gyldenstolpe, 1951). Roth (in litt., 17 December, 1985) stated that it had declined remarkably in recent years, quite rare in some regions or disappeared totally from others. Ridgely (1979), however, reported that it remains numerous over wide areas and is so far in no danger. Extirpated from some peripheral parts of its range,

for example the coastal regions and around the city of Belém in Para. Reportedly extirpated from south-eastern Brazil in the 1950s and 1960s (Sick, in Ridgely, 1981). Local and surprisingly uncommon in interior north-eastern Brazil but common over much of the Amazon basin. Described as uncommon in the territory of Roraima (Moskovits et al., 1985).

Colombia In the Santa Marta region Todd and Carriker (1922) found it to be common in the lowland forest between the Sierra Nevada and Ciénaga Grande. In 1977 the species was found to be fairly common east of the Andes, especially in the extensive swampy areas of the lower Magdalena River, but overall it was thought to have been declining although remaining quite widespread (Ridgely, see Nilsson and Mack, 1980). Included in a preliminary 'blue list' of species with declining populations; a problem species, especially west of the Andes (Hilty, 1985). Rodriguez (1985) described it as uncommon in the Los Katios National Park. Ridgely (1982) found that it remained common along the Amazon River, even near the town of Leticia, which was a major export centre for birds until 1974.

Ecuador Pearson (1972), summarizing records from the north-east of the country compiled between 1963 and 1972, listed it as a common inhabitant of forests bordering lakes and rivers. Ridgely (1982) found that it remained relatively common and widespread east of the Andes; in July-September 1976 he observed several post-breeding flocks of 50-75 birds, especially on the lower Rio Aquarico and lower Rio Lagartacochoa. He knew of only one definite record from the western part of the country and thought that it may now be extinct in that region.

French Guiana Rare and very locally distributed in the interior but more common in coastal areas; generally classified as vulnerable. Surveys suggest that the total population in the country is probably no more than a few hundred individuals (Thiollay, in press).

Guyana Reported by Young (1929) to have been common in coastal second-growth jungle and on the Abary savannas. Forshaw (in Forshaw and Cooper, 1978) failed to see this species near Georgetown or in the Mabaruma district in the interior in 1972 and was told by local people that it was not plentiful in these areas.

Panama Wetmore (1968) found it fairly common in the Tuira valley at Tuquesa and along the Rio Chucunaque near the mouth of the Tuquesa in 1959. Uncommon to locally still fairly common; decreasing in numbers near inhabited areas (Ridgely, 1981). In 1985 it was described as generally uncommon, although remaining moderately common in extensive woodland and disturbed lowlands within its limited area of distribution in the country (Panama CITES MA, 1985). Eliminated from the Azuero peninsula (Delgado, 1985). Described as common at Cana, Cerro Pirre, Darien, eastern Panama (Robbins et al., 1985).

Peru Parker et al. (1982) listed it as uncommon in Peru, although earlier O'Neill (1981) had described the species as common to abundant where habitat is intact and where not heavily persecuted and Ridgely (1979, see Nilsson and Mack, 1980) said that it was still fairly common in eastern Peru. Described as common in the Manu National Park (Terborgh et al., 1984) but it was reported to have declined around Pucallpa and Iquitos, former centres of the export trade (Ridgely, 1981).

Suriname Haverschmidt (1968) described it as still the most numerous of the large macaws in the coastal region of Suriname where undisturbed large forests remain; although Donahue and Pierson (1982) more recently described it as uncommon.

Ara ararauna

Trinidad and Tobago Probably extirpated (French, 1985). see Distribution.

Venezuela Little recent information. Seen regularly in small numbers in 1980 east of Maturin, Monagas. It was considered that numbers in far southern Amazonas were likely to be stable (Ridgely, 1982).

HABITAT AND ECOLOGY. Found in varzea or gallery forest along rivers or lakes, and in and around buriti palm (*Mauritia* sp.) swamps; in some regions, for example Panama and northern Colombia it also occurs in deciduous forest some distance from water. It reportedly avoids humid tierra firme forest, occurring only at the edges of such areas or flying over them (Ridgely, 1981). Reportedly found in flocks of up to 25 from sea level up to about 500m (Meyer de Schauensee and Phelps, 1978), however O'Neill (1981) stated that it occasionally occurred to 1500m.

Diet consists of seeds, fruits, nuts and probably vegetable matter (Forshaw and Cooper, 1978). Nesting usually takes place in dead or living trees, especially palms. One or two young are normally produced (Nilsson and Mack, 1980).

THREATS TO SURVIVAL Habitat degradation and destruction, hunting and, especially, trapping have contributed to the decline of the species. Ridgely (1981) regards the former as the more serious threat, in part because it is more permanent. Trapping for international trade and local demand has however depleted populations in many accessible areas, in some even where habitat remains little disturbed. Fairly common and popular in captivity, both locally and abroad (Ridgely, 1981); one of the most popular macaws in captivity, this species has been imported to Europe and the United States since the 16th Century (Low, 1972).

Bolivia Nores and Yzurieta (1984b) stated that populations would decline rapidly if trapping for export continued at the high levels experienced in the late 1970s and early 1980s (13 744 exported to the United States alone between 1979 and 1982). They recommended that if export was to continue it should be restricted to no more than 5% of the numbers in trade during that period. The Santa Cruz Regional Wildlife Authority reported exports of 14 588 birds of this species between 1980 and 1983.

Brazil Threatened by trapping and habitat loss. Young birds are taken out of nest holes; adult birds are very sensitive after capture and mortality is often high while they adapt to captivity (P. Roth, in litt., 17 December 1985).

Colombia None known.

Ecuador None known.

French Guiana Threatened by hunting, destruction of swamp forest and capture for the cage bird trade, for which it is in great demand (Thiollay, in press.).

Guyana Recorded exports from Guyana were nil in 1978 and 952 in 1979. The large numbers exported in the 1970s led to some concern over the possible effect of such levels of trade on the wild population and for that reason an export ban was imposed which has since been relaxed to a quota system allowing limited exports (Niles, 1981).

Panama Delgado (1985) says that habitat loss, local trade (which may have decreased somewhat in recent years) and slaughter for tail feathers are serious threats to the species in Panama; furthermore CITES is not effectively enforced. Wetmore (1968) reported that the Choco Indians and the Panamanian countrymen considered the flesh of this species a delicacy and often shot them for food. The construction of the Pan American highway was described as an important threat as it would open large areas to agriculture (Ridgely, 1977, see Nilsson and Mack, 1980).

Peru Reduced in numbers around former exporting centres, Pucallpa and Iquitos (Ridgely, 1981), however no recent threats are known.

Suriname None known.

Trinidad and Tobago Illegal taking of birds from their nests for the cage bird trade has reportedly caused a serious population decline (Ffrench, 1973) and by the 1980s the species was considered to have been totally eliminated by trappers. Large numbers of these birds have been illegally imported into Trinidad from Venezuela often for re-export abroad (Ffrench, 1985).

Venezuela See Trinidad and Tobago.

INTERNATIONAL TRADE Fairly readily available in trade (Low, 1986a). Many thousands are exported annually, in recent years principally from Bolivia and Guyana. Hundreds of birds are re-exported from countries where wild populations are very small or non-existent, for example Trinidad and Paraguay (Ridgely, 1981). Listed in CITES Appendix II in 1981.

According to CITES data the United States imported the largest proportion of the birds recorded in trade (an average of 85% of those in trade each year). Canada, the Federal Republic of Germany, the Netherlands and the United Kingdom also imported more than 100 birds in one or more of these years. The volume of trade varied between 2326 birds in 1985 and 8108 in 1983 (Table 1).

Most of the birds recorded in trade reportedly originated in Bolivia and Guyana (Table 2). Reported trade from Bolivia increased from 4291 in 1981, when the species was only listed for the last six months of the year, to 7176 in 1983, most of which were recorded as imports into the United States. The number of birds reported in trade from this source decreased to 2303 in 1984 and 46 in 1985, reflecting the export ban imposed on 1 May 1984.

The numbers reported to CITES to have been exported from Bolivia can be compared with those reported by the Santa Cruz Regional Wildlife Authority for 1980-1983 (see Threats) which averaged 3647 per year. Trade from Guyana apparently increased from 478 in 1981 to 2262 in 1985. Very few birds reportedly originated in or were re-exported by Trinidad or Paraguay both of which had been described as re-exporters of large numbers of birds in the past by Ridgely (1981). Very few of the birds in trade were reported to have been bred in captivity.

Ara ararauna

Table 1. Minimum net imports of live *A. ararauna* reported to CITES.

	1981	1982	1983	1984	1985
Austria	-	10	-	-	-
Belgium	-	24	-	-	17
Bahamas	-	-	-	2	-
Canada	65	85	279	120	33
Cayman Islands	-	-	-	-	3
China	-	4	4	2	-
Congo	-	-	-	1	-
Cyprus	-	-	-	-	2
Czechoslovakia	5	-	-	-	-
France	-	14	-	60	-
French Guiana	-	-	-	-	2
German D.R.	2	4	-	-	-
Germany, F.R.	247	407	193	195	133
Greenland	-	-	-	-	2
Hungary	4	-	-	-	-
Indonesia	-	-	-	-	6
Israel	-	-	-	-	2
Italy	10	12	-	-	-
Japan	5	-	41	7	-
Korea	-	-	3	9	-
Liberia	-	1	-	-	-
Libya	-	-	-	-	2
Malaysia	-	-	-	24	-
Malta	-	-	-	-	1
Mexico	3	3	-	-	-
Netherlands	-	166	4	24	245
Netherlands Antilles	-	-	-	2	-
Oman	-	-	-	-	1
Pakistan	-	-	-	2	-
Philippines	1	-	-	-	-
Quatar	-	-	-	-	3
Saudi Arabia	-	-	-	5	19
South Africa	13	16	28	26	17
Spain	-	-	-	4	4
Sri Lanka	1	-	-	-	-
Sweden	1	1	5	18	7
Switzerland	4	36	18	11	14
Taiwan	5	-	-	17	-
Thailand	-	-	-	10	-
UAE	-	-	-	-	12
UK	20	29	10	158	89
USA	4029	4586	7521	2720	1667
USSR	1	-	2	2	8
Zimbabwe	-	-	-	-	3
Unknown	457	2	-	-	-
TOTAL	4873	5400	8108	3419	2326

Table 2. Reported countries of origin or export for exports of live *A. ararauna*

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. ararauna</i>					
Bolivia	4291	4580	7176	2303	46
Brazil	-	5	2	3	2
Colombia	-	2	5	29	7
Ecuador	-	-	-	32	-
Guyana	478	789	891	1046	2262
Panama	20	4	2	1	1
Peru	20	-	2	1	-
Suriname	18	10	8	9	17
Venezuela	-	-	-	-	4
Countries without wild populations of <i>A. ararauna</i>					
Argentina	1	-	-	-	3
Bahamas	-	1	-	-	-
Dominican Republic	2	4	-	-	-
El Salvador	-	-	1	-	-
Germany, F.R.	-	3	2	-	6
Ghana	-	-	-	5	1
Honduras	1	-	-	-	-
Hong Kong	-	-	2	-	-
Indonesia	-	-	-	2	-
Japan	-	4	-	-	-
Netherlands	-	1	2*	1*	3
Paraguay	-	-	2	-	1
Saudi Arabia	-	-	3	1	-
South Africa	-	-	-	-	3*
Spain	-	2	-	-	-
Sweden	-	-	-	-	18
Switzerland	-	-	-	4*	-
Trinidad & Tobago	-	1	9	1	5
UK	-	1	1	1	-
USA	2	11	22	-	-
USSR	-	-	-	2	-
Unknown	48	10	4	15	8

* = captive-bred

CONSERVATION MEASURES All of the range countries are Parties to CITES. Ridgely (1981) reported that major populations of this species occur in national parks and reserves in several South American countries, notably Ecuador, Peru, Venezuela, Suriname and Brazil. Furthermore, full implementation of the recently established Darien National Park, Panama would serve to protect part of the Central American population. Most of the information on legislation in these countries was extracted from Fuller et al. (1987).

Bolivia All exports of live wildlife have been prohibited since 1 May 1984.

Brazil All wildlife exports have been banned since 1967.

Ara ararauna

Colombia Commercial hunting of all birds has been prohibited since 1973 under Resolucion No. 849).

Ecuador All exports of indigenous wildlife have been prohibited since January 1983, except for educational or scientific purposes.

French Guiana Covered by CITES controls as an overseas department of France. Has been fully protected since May 1986.

Guyana Parrots are not protected in Guyana but are open for exploitation for the local and overseas pet trade. The numbers exported are controlled by export quotas allotted to about 12 registered companies; however the quotas are not determined on precise quantitative surveys (Niles, 1981). The 1987/88 quota is 2400 (Thomsen, 1988).

Panama Protected since 1980 by Resolucion No. 002-80. A reserve of 100 000 ha, the new Darien National Park, has recently been established (Nilsson and Mack, 1980).

Peru All commercial hunting of wildlife in the Selva region, east of the Andes, has been prohibited since 1982. The species is not included in a list of species allowed for export (CITES Notification to the Parties No. 389, 7 May 1986).

Suriname Since 1970, hunting and trade of native birds and mammals has been prohibited except for listed game or domestic species. *A. ararauna* is listed as a game species, which means that hunting is permitted during open seasons. An annual quota of 238 was set for 1987 (Thomsen, 1988).

Trinidad and Tobago No information.

Venezuela With few exceptions, all hunting of indigenous wildlife has been prohibited since 1970.

CAPTIVE BREEDING Common in captivity. Prior to the 1970s it was infrequently bred in captivity. However, in recent years there have been many breeding successes, some pairs nest readily and consistently produce young (Low, 1986a).

GOLDEN-COLLARED MACAW
YELLOW-COLLARED MACAW

Recommended list: 2
[Possible problem]

Ara auricollis Cassin, 1853

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Found in central Brazil, eastern Bolivia and across the north-west of Paraguay and north-western Argentina. The species is relatively common throughout much of its range but is nowhere abundant. In Bolivia, it is not numerous, and may be declining, and in Argentina, populations are apparently critically low. Found in a variety of habitat types, from humid forest to open swamps, and also near agricultural land. Collection for the pet trade was reported to be heavy, and during 1981 to 1983 the levels were giving cause for concern.

International trade rose rapidly from about 20 in 1973 to 2874 in 1982. From 1981 to 1984, almost all the birds in trade reported to CITES originated in Bolivia. The USA was the chief importer. The level of trade fell sharply to 404 in 1984 and 322 in 1985. Currently banned from export in all range countries.

Previously high levels of trade were giving concern, and were thought to be in excess of sustainable levels, at least in Bolivia. The export ban imposed on 1 May 1984 in Bolivia appears to have been effective in dramatically curtailing the trade. However it is too early to say whether this has been a lasting effect, and the ban may only be temporary. Continuing protection is clearly needed in Bolivia, and recent information on the population status in the Mato Grosso is required.

DISTRIBUTION Found in central Brazil, eastern Bolivia and across the north-west of Paraguay and north-western Argentina.

Argentina Found in south-east Jujuy and northern Salta (Nores and Yzurieta, 1983).

Bolivia Found in the east of the country, in the departments of Santa Cruz, Beni and Tarija (Nores and Yzurieta, 1984a), and Cuquisaca (Schmitt and Schmitt, 1987). Local in the north, where restricted to semi-open areas (Ridgely, 1982).

Brazil Mainly in south-western Mato Grosso (Naumburg, 1930; Short, 1975). An additional population has recently been recorded on Iha do Bananal in northern Goias, and adjacent north-eastern Mato Grosso (Ridgely, 1981).

Paraguay Found in the north of the country, mainly west of the Paraguay river (Short, 1975), although avoiding the drier parts of the chaco (Laubman, 1939/40, Ridgely, 1981).

POPULATION The species is relatively common throughout much of its range but is nowhere abundant (Nores and Yzurieta, 1983). Ridgely (1982) described the populations as essentially stable, even in densely settled areas.

Argentina Ridgely (1982) thought that it may have declined more in Argentina than elsewhere due to more general forest destruction, but he regarded it as still locally fairly common in the extensive areas where suitable habitat remained. Nores (*in litt.* to W. Belton, 22 November 1982) remarked that the species was common in the north of Salta. However, in 1986

Ara auricollis

it was regarded as very scarce, and in a critical situation (Argentina CITES MA, 1986).

Bolivia Ridgely (1982) found it to be fairly common or common, and reported that substantial numbers were still to be found near Santa Cruz. Nores (*in litt.* to W. Belton, 22 November 1982) remarked that it was satisfying that the species was still locally common in Bolivia. Nores and Yzurieta (1984a) thought that populations were not very numerous and mainly concentrated in the south-east; it was very scarce or absent in northern Santa Cruz.

Brazil Said to be generally common, and essentially stable in 1980 (Ridgely, 1981).

Paraguay Not well known. Ridgely (1982) pointed out that most of its range had not been investigated by ornithologists; he found it uncommon along the Rio Apa in the extreme north, the only area in which he saw it.

HABITAT AND ECOLOGY. Found in several different habitat types, from humid, sub-tropical woodland, through deciduous chaco woodland to open cerrado and pantanal with gallery forest. Also found in woodland patches in agricultural areas. Ranges in altitude from the lowlands to 700 m, in Argentina (Ridgely, 1981). In Bolivia, found primarily in transition forest at the foot of mountains and along rivers (Nores and Yzurieta, 1984a). Olrog (1984) also reports it as common in transition forest. Seasonal movements have been reported, the macaws moving north to La Esperanza on the Itenez River in the dry season (Forshaw and Cooper, 1978).

Nesting has been recorded in Argentina in early December, in a hollow in a tree about 20 m above the ground (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL

Argentina General forest destruction was thought to be a major threat (Ridgely, 1982).

Bolivia Nores and Yzurieta (1984) suggest that if existing capture rates continue the species may be expected to decline in the near future.

Brazil Said to be ecologically adaptable and capable of persisting in areas where extensive habitat modification has occurred. Most of the range remains hardly affected by man. Not apparently affected in 1980 by collecting around Corumba, one of the major export centres, although the high rate of collecting might not be sustainable indefinitely (Ridgely, 1981).

Paraguay No information.

INTERNATIONAL TRADE International trade in *A. auricollis* was first reported in 1973, and had risen rapidly to 1666 in 1978 (Nilsson and Mack, 1980). Minimum net imports reported to CITES fluctuated between 2326 and 2874 in the years 1981 to 1983, but then fell sharply to only 404 in 1984 and 322 in 1985 (Table 1). Almost all the birds in trade prior to 1985 were reported as having originated in Bolivia (Table 2); so the reduction in trade may be attributable to the ban on exports from the country (see below).

Export figures supplied by the Santa Cruz regional management authority indicate that a total of 12 816 *A. auricollis* were exported from Bolivia from 1980 to 1983, indicating that the CITES reports may have appreciably under-estimated the volume of trade. In 1985 Sweden reported the import of 300 from Guyana, a non-range state; this may be the result of mis-identification.

Table 1. Minimum net imports of live *A. auricollis* reported to CITES

	1981	1982	1983	1984	1985
Belgium	-	8	-	-	-
Canada	6	9	10	-	-
France	-	10	-	-	-
Germany, F.R.	153	170	147	70	-
Italy	-	-	30	-	-
Netherlands	-	100	-	-	-
Netherlands Antilles	-	-	1	-	-
South Africa	-	-	2	-	20
Sweden	-	-	-	-	30?
Switzerland	8	4	4	-	-
UK	22	20	-	-	-
USA	1813	2553	2536	334	-
TOTAL	2326	2874	2730	404	322

Table 2. Reported countries of origin or export for exports of live *A. auricollis* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. auricollis</i>					
Bolivia	2323	2870	2730	404	20
Paraguay	3	-	-	-	-
Countries without wild populations of <i>A. auricollis</i>					
Canada	-	1	-	-	-
Guyana	-	-	-	-	300
Italy	-	4	-	-	-
Singapore	-	-	-	-	2

CONSERVATION MEASURES All of the range states are Parties to CITES. Most of the following information was obtained from Fuller et al., (1987).

Argentina Included in a general ban on trade in wildlife under Resolution No. 62 of 14 March 1986 (CITES NOTification to the Parties, No. 412, 28 November 1986).

Bolivia Not specifically referred to in Bolivian legislation. All exports of live wildlife have been prohibited since 1 May 1984. Recorded from Amboro National Park (Clarke, 1985).

Brazil All exports of wildlife have been prohibited since 1967.

Paraguay All exports of wildlife have been prohibited since 1975.

CAPTIVE BREEDING These macaws were rare in aviculture before the 1970s (Low, 1986a).

RED-AND-GREEN MACAW
GREEN-WINGED MACAW

Recommended list: 2
[Possible problem]

Ara chloroptera G.R. Gray, 1859

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A monotypic species found in Panama, Colombia, Venezuela, Guyana, Suriname, French Guiana, Brazil, Paraguay, Argentina, Bolivia, Peru and Ecuador. In 1981 it was described as generally uncommon even in undisturbed portions of its range; its overall population had declined somewhat, but remained substantial. In peripheral areas the decline has been more noticeable; it has been extirpated in south-east Brazil and is local and declining in many parts of Venezuela. Its occurrence in Argentina may be based on one specimen taken in 1917. Inhabits humid lowland forest.

The recorded trade during 1981-85 ranged between 1393 in 1985 to 2589 in 1983, mainly originating in Bolivia and Guyana. The species is protected in Colombia, French Guiana, Panama, Paraguay and Venezuela. Export is banned in Argentina, Brazil, Ecuador, Peru and (from 1 May, 1984) Bolivia. Trade is regulated in Suriname and Guyana.

As this species is generally uncommon but a popular bird in captivity it is likely that trade is adversely affecting its populations, at least on a local scale.

DISTRIBUTION Found locally from eastern Panama through Colombia, Venezuela, Guyana, Suriname, French Guiana, Brazil, Paraguay, Bolivia, Peru and Ecuador to northern Argentina.

Argentina Last recorded from Formosa in 1917 (Nores and Yzurieta, 1984a). This may have been the only authenticated record (Forshaw and Cooper, 1978), although it has also been reported from southern Chaco and Misiones (Naumburg, 1930). Ridgely (1981) cited reports that the species used to occur in northern Salta, and considered it not improbable that the species still occurred in Argentina as a vagrant. Birds in Formosa may have been wanderers from further north (Short, 1975).

Bolivia Recorded rather widely in the lowlands of the north and east, including Beni (Bond and Meyer de Schauensee, 1943), Cochabamba (Remsen et al., 1986), Santa Cruz (Nores and Yzurieta, 1984a) and Chuquisaca (Ridgely, 1982). Observed in the regions of 1° Mayo and Rio Ichilo (Nores and Yzurieta, 1984a).

Brazil Found at least locally over much of the country except the extreme east (Ridgely, 1982). Recorded from Matto Grosso (Lavrinhas, Rio das Flechas, Caigara, Chapada); Sao Paulo (Murungaba, Serra do Cubatao); Paraná (Ourinho); Piaui; Para (Santarem, Arumathua); Amazonas (Rio Juru#, Diamantina); Roraima (Rio Maracá) (Naumburg, 1930) and Minas Gerais (Mattos et al., 1985). Now confined in the south of the country to Parana (Nores and Yzurieta, 1984a).

Colombia On the Pacific coast from the Panama border south to the Baudo Mountains, and east in the humid regions north of the Andes through the upper Sinu and lower Cauca Valleys; an isolated population in the Santa Marta region, locally in Guajira and the north-western base of the Perija Mountains; east of the Andes throughout, from Norte de Santander and Vichada southward (Hilty and Brown, 1986).

Ara chloroptera

Ecuador Found locally throughout the eastern lowlands, perhaps also ranging up into the foothills though there are few recent records (Ridgely, 1982).

French Guiana Recorded from Saül (Tostain, 1980; Dick et al., 1984).

Guyana Recorded from several forested areas in the Bonasika and Berberice Rivers, Oko, Bartica, Wineperu, Kamakusa, Kanuku and the Pacarima Mountains (Snyder, 1966), though seldom seen near the coast (Forshaw and Cooper, 1978).

Panama Locally distributed and confined to the east (Bayano River Valley, Darien and eastern San Blas). There are two nineteenth century specimens from the Caribbean slope of the Canal Zone but it is likely that these were captive birds (Ridgely, 1982).

Paraguay Present in the north-east and also possibly the south-east, but not elsewhere (Nores and Yzurieta, 1984a). Occurs in the northern and eastern chaco. Birds in the south, along the lower Rio Paraguay, may be wanderers from further north (Short, 1975). Recorded from Guacamayo and Alto Paraná (Naumburg, 1930).

Peru Found widely in the eastern lowlands (Ridgely, 1982).

Suriname Listed as present in Raleigh Falls and Brownsberg National Parks (Donahue and Pierson, 1982). Found more in the forests of the interior (Haverschmidt, 1968).

Venezuela Locally distributed through much of the country, but not recorded from the llanos of Portuguesa to Monagas or in Sucre (Meyer de Schauensee and Phelps, 1978).

POPULATION Generally uncommon even in undisturbed portions of its range, and never as numerous as *Ara ararauna* or *Ara macao* often are, being more solitary and widely dispersed. Local population declines have occurred, and it is now very seldom seen around population centres and settlement zones. It is usually the first macaw to suffer local extinction, although over large undisturbed areas of Amazonia it remains as common as ever. Around the edges of the range population declines have been most severe, particularly in Panama, Colombia, Venezuela and eastern Brazil (Ridgely, 1981).

Argentina Virtually extinct, although there there is no evidence that it ever occurred regularly (Nores and Yzurieta, 1984a). Thought to now be extinct (Argentina CITES MA, 1987).

Bolivia Relatively common in Santa Cruz and Cochabamba and probably also in Beni and the east of La Paz and Pando. Said to have declined as a result of over-collecting, particularly in the regions of 1° Mayo and Rio Ichilo (Nores and Yzurieta, 1984a). Pearson (1975c, see Forshaw and Cooper, 1978) claimed that it had become locally extinct around Tumi Chucua, Beni. Olrog (1963a) said it was common in the Amazonian and transition zones.

Brazil Remains common in much of the Amazon Basin, particularly in sparsely populated areas, and is the most numerous large macaw in interior northern Brazil, but has declined over much of the southern part of the range: extinct in northern Espirito Santo and around Rio de Janeiro, and probably from Paraná (but see below). Virtually extinct in Sao Paulo (Ridgely, 1979). Said to have

Ara chloroptera

been virtually exterminated in Paraná (Nores and Yzurieta, 1984a), although Pinto and Camargo (1955) reported it to be the most common macaw along the Paraná River. Listed as common at Alarcá, Roraima (Moskovits et al., 1985). In the Carajás and Tucuruí areas of Para it was recorded at the frequencies of 3.0 and 2.4 per 10km respectively (Johns, 1986). *A. chloroptera* is said to have declined remarkably in recent years. It is quite rare in some regions and has been extirpated from others (P. Roth, *in litt.*, 17 December 1986). It was previously common in the east of Brazil, but is no longer found in Espírito Santo, Rio de Janeiro or the interior of Paraná, though it remains frequent in Amazonia (Sick, 1984). Ridgely (1981) pointed out that it had been entirely extirpated from most of its range in eastern Brazil, which formerly extended from southern Bahia to Sao Paulo. The last birds disappeared from Espírito Santo as recently as 1964.

Colombia Included on Hilty's (1985) "blue list" of species which appear to have declined in numbers, but said to be more numerous than *Ara macao*. Ridgely (1981) surmised that widespread deforestation in the north would surely have resulted in an overall decline of the species there, although the population to the east of the Andes would have been little affected. Said to be common in Los Katios National Park, Choco (Rodriguez, 1985). Described as "the common macaw" of the lowlands between Santa Marta and Riohacha, though less common to the south-west around Fundación (Todd and Carriker, 1922). There were still fair numbers around Fundación in 1977 (Ridgely, 1982).

Ecuador Listed as infrequent in Ecuador (Butler, 1979). It has apparently declined in numbers around Lake Limoncocha and has disappeared from areas where it was numerous five to ten years previously. It was said to be the least common large macaw in eastern Ecuador (Forshaw and Cooper, 1978).

French Guiana Said to be much less common than *Ara macao* (Tostain, 1980), although J.M. Thiollay (*in press*) held that the reverse was true. Previously abundant and widespread, *A. chloroptera* has become rare in all regions where it has been hunted. It has disappeared from a large part of the coastal zone and now only remains numerous in the great forests away from the main rivers. Even in the most untouched areas the natural density is very low (Thiollay, *in press*).

Guyana Niles (1981) implied that it was not numerous in Guyana. It is seldom seen near the coast (McLoughlin, 1970, see Forshaw and Cooper, 1978).

Panama Ridgely (1976) described the species as local and decreasing in numbers, saying that the range has shrunk since the nineteenth century. He later (Ridgely, 1981) said it was "now decidedly uncommon", being restricted to the most remote regions in the east. The Darien National Park provided a large area of critical habitat, but the completion of the Pan-American Highway would undoubtedly lead to declines elsewhere. At Cerro Pirre, Darien, it was listed as fairly common from Cana up the eastern slope to 1400 m, and uncommon on the ridge top at 1400-1500 m (Robbins et al., 1985). Forshaw and Cooper (1978) considered that the species was still fairly common in heavy forest and in eastern Darien, especially in the Tuira River valley.

Paraguay Locally fairly common in the forested eastern half of the country. Small numbers occur in the south near the Parana River (Ridgely, 1982).

Peru Parker et al. (1982) listed it as uncommon in Peru, whereas O'Neill (1981) described it as fairly common where habitat is intact and where it is not heavily persecuted. He found it to be the most frequently seen large macaw on the Curanja River, Loreto (see Forshaw and Cooper, 1978). Listed as uncommon in Manu National Park (Terborgh et al., 1984).

Suriname Listed as uncommon (Donahue and Pierson, 1982). Regularly observed at Coeroeni Airstrip (Scharringa, 1974).

Venezuela Said to be declining in many parts of the country, particularly north of the Orinoco where it has been adversely affected by the extensive deforestation which has occurred in recent decades in parts of the Maracaibo basin and elsewhere in the west. Nonetheless, considerable numbers remain, even in rather disturbed, incompletely cut-over areas (Ridgely, 1982).

HABITAT AND ECOLOGY. Found mainly in tropical deciduous forest but also in gallery woodland in open areas such as the Pantanal (Ridgely, 1981). Usually seen in pairs or small groups and not in large flocks. Feeds in the tree tops on seeds, nuts, fruits berries and vegetable matter. Nesting usually occurs in hollow trees, high above the ground, although this species has been observed excavating burrows in a cliff face beside a river (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Ridgely (1981) considered that this species was particularly susceptible to disturbance, being the first macaw to disappear from settled areas. Forest clearance was most severe in Panama, northern Colombia and eastern Brazil. The species has even become extinct in Sooretama Reserve in eastern Brazil (22 000 ha), indicating that large areas of undisturbed forest are needed to preserve it. O'Neill (1981) blamed persecution (by trapping?) for local population declines. Trade in this species in Panama was considered to pose a serious risk (Delgado, 1985). Trade was thought to have caused population declines in Bolivia. In Paraguay, accelerating forest destruction in the north-east was thought to pose a serious threat (Nores and Yzurieta, 1984a). In Brazil, *A. chloroptera* is collected extensively, usually as young from the nests. It does not adapt well to captivity, and mortality is heavy. Habitat loss is also a problem in some areas (P. Roth, *in litt.*, 17 December 1986). In French Guiana, hunting is thought to have caused severe population declines and local extinction, as these macaws are particularly susceptible to collection from their nest holes. The indians also hunt them for their feathers and occasionally keep them as pets. They are also certainly adversely affected by forest exploitation and clearance (Thiollay, *in press*). With the transfer of the similar *Ara macao* to Appendix I, the number of *A. chloroptera* reported in trade may rise if commercial attention is transferred to this species.

INTERNATIONAL TRADE Minimum net imports reported to CITES from 1981 to 1985 varied from 1393 to 2589 annually. The main importing countries were the USA, and F.R. Germany (Table 1). The majority of exports originated in Bolivia and Guyana, with a smaller number from Colombia, particularly in 1982 (Table 2). No exports of *A. chloroptera* from Guyana were reported in 1978 or 1979 and Niles (1981) said that small numbers had only recently been permitted. The CITES reports indicate that quite substantial numbers have since been exported. Figures supplied by the Santa Cruz regional wildlife management authority indicate the exports of this species from Bolivia totalled 4710 from 1980 to 1983, suggesting that the CITES reports may have under-estimated the trade.

Ara chloroptera

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information was mainly extracted from Fuller et al., (1987).

Argentina Included in a general ban on export of wildlife (CITES Notification to the Parties No. 412, 28 November 1986).

Bolivia Prohibited from all hunting and trade under Decreto Supremo No. 11251, 20 December 1973. The validity of this listing has been questioned, but all exports of live wildlife have been prohibited from 1 May 1984.

Brazil All wildlife exports have been banned since 1967.

Colombia Commercial hunting of all birds has been prohibited since 1973 under Resolucion No. 849.

Ecuador All exports of indigenous wildlife have been prohibited since January 1983, except for educational or scientific purposes.

French Guiana French Guiana is covered by CITES controls as an overseas department of France. Completely protected since May 1986.

Guyana Concern was felt over the exportation of the rarer macaws, and a ban was placed on the exportation of all but *Ara nobilis*. The ban was later relaxed to strict control, and small numbers of *A. chloroptera* were permitted (Niles, 1981). A 1987/88 quota of 1800 has been established (Thomsen, 1988).

Panama *A. chloroptera* is protected from all capture, hunting and trade in Panama under Resolucion No. 002-80, 24 January 1980.

Paraguay All hunting trade and export of indigenous wildlife has been prohibited since 1975.

Peru All commercial hunting of wildlife in the Selva region, east of the Andes has been prohibited since 1973. The species is not included in the list of parrots allowed for export (CITES Notification to the Parties No. 389, 7 May 1986).

Suriname *A. chloroptera* is listed as a game species, and may be traded under regulatory controls. An annual export quota of 66 was established for 1987 (Thomsen, 1988).

Venezuela With few exceptions, all hunting of indigenous wildlife has been prohibited since 1970.

CAPTIVE BREEDING Although not as common in trade as *Ara macao*, it has been exported for centuries as a pet. Scattered breeding has occurred in many avicultural collections (Low, 1986a).

Table 1. Minimum net imports of live *A. chloroptera* reported to CITES.

	1981	1982	1983	1984	1985
Austria	5	-	-	-	-
Bahamas	-	-	-	1	-
Belgium	-	-	-	28	27
Canada	9	18	82	38	54
Cayman Islands	-	2	-	-	1
China	-	-	4	2 (zoo)	-
Denmark	-	-	-	-	107
Finland	-	-	1	-	-
France	4	-	-	30	-
German D.R.	2	-	-	2	-
Germany, F.R.	93	118	69	164	51
Greenland	-	-	-	-	3
Hungary	-	-	-	1	-
Indonesia	-	-	-	-	2
Israel	-	-	-	-	1
Italy	-	80	6	72	-
Japan	10	-	69	13	-
Korea	-	-	5	11	1
Libya	-	-	-	-	3
Malaysia	-	-	-	6	-
Mexico	3	3	-	-	-
Netherlands	-	-	-	30	159
Philippines	-	2	-	-	-
Qatar	-	-	-	-	3
Saudi Arabia	-	-	-	3	10
Singapore	-	-	-	10	6
South Africa	-	2	2	17	20
Spain	-	3	-	-	-
Sweden	-	5	-	1	73
Switzerland	1	16	22	7	21
Thailand	-	16	8	-	-
Tunisia	-	-	-	1	-
UAE	-	-	-	-	2
UK	14	6	-	140	93
USA	1230	1647	2321	1672	722
USSR	-	-	-	-	34
Yugoslavia	-	-	-	1	-
Unknown	28	2	-	-	-
TOTAL	1399	1920	2589	2250	1393

*Ara chloroptera*Table 2. Reported countries of origin or export for exports of live *A. chloroptera* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. chloroptera</i>					
Argentina	4	-	-	-	2
Bolivia	698	960	1659	841	48
Brazil	1	-	1	1	1
Colombia	-	82	4	2	1
Ecuador	-	-	-	1	-
Guyana	664	864	908	1355	1354
Panama	1	1	2	-	1
Paraguay	10	2	2	4	2
Peru	1	-	2	-	-
Suriname	13	2	1	2	4
Venezuela	-	11	3	3	1
Countries without wild populations of <i>A. chloroptera</i>					
Belgium	2*	-	-	-	-
Canada	-	1	-	-	-
Costa Rica	-	1	2	-	-
Dominican Republic	-	3	-	-	-
German D.R.	-	-	1*	-	-
Germany, F.R.	-	-	1	2	-
Ghana	-	-	-	2	-
Netherlands Antilles	-	-	-	1	-
Saudi Arabia	-	1	-	-	-
Singapore	-	-	-	1	-
Spain	-	4	-	-	-
Sweden	-	-	2	-	42
Trinidad & Tobago	-	1	-	-	-
USA	4	5	11	-	1
Uruguay	-	-	-	36	-
Unknown	12	7	1	2	2
*captive-bred					

RED-BELLIED MACAWRecommended list: 2
[Possible problem]*Ara manilata* (Boddaert, 1783)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A monotypic species found in Colombia, Venezuela, Trinidad, Guyana, Suriname, French Guiana, Brazil, Bolivia, Peru and Ecuador. It is closely associated with buriti palms *Mauritia* and may be abundant where these occur. It appears to be locally common in most countries but in Guyana it was described as 'not plentiful' in 1980 and no relevant information was found for French Guiana. The buriti palms are found locally in swampy or seasonally flooded terrain in regions that otherwise vary from being forested to semi-open (savanna or cerrado).

The recorded trade during 1981-85 increased substantially from 50 in 1981 to 855 in 1984 and then decreased to 537 in 1985. All birds in 1984 originated in Guyana but in previous years small numbers also came from Bolivia and in 1985 one was exported from Trinidad. The species is protected in Colombia and Venezuela. Exports are banned in Brazil, Ecuador, French Guiana, Peru and (from 1 May, 1984) Bolivia. In Guyana exports are controlled under a quota system but in Trinidad the species is not protected.

Although locally common overall the species is not plentiful in Guyana; however exports from that country have increased from nil in 1978 to 855 in 1984 and 537 in 1985; further information is required to determine whether trade is affecting populations in that area.

DISTRIBUTION Occurs in Trinidad and from north-eastern Colombia, eastern Venezuela and the Guianas south to northern Bolivia and central and north-eastern Brazil, reaching northern Mato Grosso, Goias, western Bahia and Piaui (Ridgely, 1981). A monotypic species (Forshaw and Cooper, 1978).

Bolivia Mercado (1985) reported the species to occur in tropical forest in the north of the country. Observed by Pearson (1975c) at Lake Tumi Chucua, Beni in the extreme north-east of Bolivia, by Steinbach at Buena Vista in 1964, by Remsen at Ea. Inglaterra in 1976 and by O'Neill by the Rio Heath, north-west Bolivia in 1977 (Remsen and Ridgely, 1980). Recorded in Amboro proposed National Park (Clarke, 1985)

Brazil Found in Amazonia, northern Mato Grosso, central Goias, Piaui and western Bahia (Sick, 1984), Para (Ridgely, 1979), Minas Gerais (Mattos et al., 1985). Included in a list of birds found in the territory of Roraima and adjacent areas (Moskovits et al., 1985).

Colombia East of the Andes from Meta and western Vaupes south to Putumayo and Amazonas; possibly also in eastern Vichada (Hilty and Brown, 1986).

Ecuador Recorded mainly from the drainage system of the Rio Napo, but probably widespread in suitable habitats throughout the east (Ridgely, 1982).

French Guiana Listed as an inhabitant of Cayenne (French Guiana) (Berlepsch, 1908).

Guyana Widespread from Conservancies, coastal rivers to Bartica, Takutu River (Snyder, 1966).

Ara manilata

Peru Locally distributed throughout the Amazonian drainage in the east (Ridgely, 1982).

Suriname Recorded in Raleigh Falls/Voltzberg National Park and Sipaliwini Savanna (Donahue and Pierson, 1982).

Trinidad and Tobago Occurs in Trinidad in Nariva swamp and the vicinity of Aripo savannah (Ffrench, 1973). Not found on Tobago (Junge and Mees, 1958).

Venezuela Found in the tropical zone, from extreme eastern Anzoategui, north-east Monagas and in Ciudad Bolivar and in south-east Bolivar on Cerros Roraima and Auyan-tepui (Meyer de Schauensee and Phelps, 1978). Recorded by Boano (1981) in Amazonas and Bolivar.

POPULATION Necessarily local, owing to its habitat preference, but often quite common where *Mauritia* palms are found. These palms are reportedly rarely disturbed by human residents, even in quite densely settled areas. Occurs in some regions where other macaws have long since been extirpated (Ridgely, 1981). Nilsson and Mack (1980) described its status as stable.

Bolivia Nores and Yzurieta (1984a) found it to be fairly common in the north of Bolivia. Pearson (1975c) observed up to 200 individuals in small flocks every morning and evening at Lake Tumi Chucua, Beni. Remsen (in Remsen and Ridgely, 1980) found the species one of the most frequently seen birds in the savannahs at Ea. Inglaterra and O'Neill (*ibid.*) saw large numbers on the Bolivian side of the Rio Heath in the extreme north-west of the country. Remsen visited the site studied earlier by Pearson at Tumi Chucua but did not observe any specimens of this species and concluded that its local status probably drastically changed annually or seasonally and that it was highly mobile perhaps performing long-distance migrations.

Brazil Locally common (P. Roth, *in litt.* 17 December, 1985). Listed as common in Roraima (Moskovits *et al.*, 1985). Ridgely (1979) reported that it was very tolerant of habitat disturbance; still common in extreme north-eastern Para, east of Belém, where most forest and all other macaws have long since ceased to exist.

Colombia Hilty and Brown (1986) regarded it as uncommon and local, whereas Ridgely (1982) found it to be local but often quite numerous, for instance around Villavicencio, Meta.

Ecuador Butler (1979) described it as infrequent in Ecuador although Ridgely (in Nilsson and Mack, 1980) found it fairly common but seasonal and local in occurrence in 1979.

French Guiana No information.

Guyana Young (1929) stated that it was by no means uncommon in the coastal second-growth jungle and on the Abary savannahs. According to Niles (1981) it is not plentiful in Guyana although it is widespread (Snyder, 1966) and Forshaw (in Forshaw and Cooper, 1978) found it to be quite common in coastal Guyana in May 1971.

Peru Parker *et al.* (1982) listed the species as locally common in Peru. O'Neill (1980) described it as common to abundant; flocks of thousands are sometimes seen. Listed as uncommon at Cocha Cashu, Manu National Park (Terborgh *et al.*, 1984). Not common in the south-east and unrecorded at Balta, Loreto (Ridgely, 1982; O'Neill, 1974).

Suriname Duplaix (in Nilsson and Mack, 1980) stated that it was still common; however it was annotated as uncommon by Donahue and Pierson (1982).

Trinidad and Tobago Herklots (1961) said the species was present in considerable numbers in the Nariva Swamp on Trinidad and Ffrench (1973) reported it to be a fairly common local resident in the vicinity of Nariva swamp and Aripo savannah, especially where the moriche palm (*Mauritia flexuosa*) abounds.

Venezuela Little known but Friedmann and Smith (1955) found it to be numerous near the Orinoco River and Ridgely (1982) was told of large numbers in 1980 near Maturin, Monagas.

HABITAT AND ECOLOGY. Closely associated with *Mauritia* palm vegetation throughout most of its range. Rarely seen perched in other trees (Ridgely, 1981) although it has been observed in parklands and plantations (Snyder, 1966). Stands of these palms are reportedly found locally in swampy or seasonally flooded terrain in regions that otherwise vary from being forested to semi-open savannah or cerrado (Ridgely, 1981). An extremely gregarious bird, flocks of 100 are often recorded; they roost communally (Ffrench, 1973). They feed extensively on the fruits of *Mauritia* palms. Nesting has been observed in hollows in dead palms, often utilizing sites used by *Amazona* parrots after the former residents have finished nesting; two eggs are usually laid (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Very tolerant of habitat disturbance (Ridgely, 1979). The preferred habitat is rarely disturbed, even in densely populated areas and the birds are reportedly hardly ever molested. It does not readily adapt to captivity (Low, 1980). Not as colourful as the other macaws this species was reported not to have been heavily exploited for the pet trade (Nilsson and Mack, 1980).

Bolivia None known. Seldom captured for export; only 66 were exported to the United States during the period 1979-1982 (Nores and Yzurieta, 1984a).

Brazil Not captured in large numbers for aviculture. Described as a food specialist, very sensitive during adaptation and therefore not particularly suitable for keeping in captivity. Habitat loss was reported not to be an important threat (P. Roth, *in litt.*, 17 December, 1985).

Colombia None known.

Ecuador None known.

French Guiana None known.

Guyana The only export recorded in 1978 and 1979 was 1 bird in 1979 (Niles, 1981). More recently the number of birds exported each year has increased (see CITES data) and, as the export quotas set for parrot species are not based on quantitative surveys (Niles, 1981), the wild population in Guyana may be threatened by this trade. Niles (1981) stated that a planned irrigation scheme will flood an extensive area of palm habitat and would therefore adversely effect the breeding of this species.

Peru None known.

Suriname None known.

Ara manilata

Trinidad and Tobago None known.

Venezuela None known.

INTERNATIONAL TRADE Decidedly rare in captivity (Low, 1986a). Listed in CITES Appendix II in 1981.

Table 1. Minimum net imports of live *A. manilata* reported to CITES.

	1981	1982	1983	1984	1985
Belgium	-	-	-	26	10
Canada	-	-	-	2	-
Denmark	-	-	-	-	164
Germany, F.R.	-	19	-	70	-
Netherlands	-	-	-	-	71
Oman	-	-	-	-	1
South Africa	-	-	-	-	2
Switzerland	-	-	92	-	-
UK	2*	32	-	24	104
USA	48	219	188	733	185
TOTAL	50	270	280	855	537

The recorded trade apparently increased significantly over this period. The United States imported the majority of the birds in trade (on average 69% of those recorded each year).

Table 2. Reported countries of origin or export for exports of live *A. manilata* reported to CITES.

	1981	1982	1983	1984	1985
Belgium	2*				
Bolivia	12	54	9		
Guyana	36	215	271	855	536
Trinidad & Tobago	-	-	-	-	1
Venezuela	-	1			

* captive-bred

The vast majority of the recorded trade originated in Guyana although significant smaller numbers were exported by Bolivia in 1981 and 1982. The volume of trade from Guyana has increased over the past few years from none recorded in 1978, one exported in 1979 (Niles, 1981) up to the 855 birds reported in 1984 by CITES Parties. Export figures supplied by the Santa Cruz regional wildlife management authority showed total exports of 710 *A. manilata* from Bolivia from 1980 to 1983, suggesting that the CITES figures may have under-estimated the trade. It is unlikely that the two birds exported from Belgium in 1981 were bred in captivity as claimed (see Captive breeding).

CONSERVATION MEASURES All of the range countries are Parties to CITES. The following information was mainly extracted from Fuller *et al.*, (1987).

Bolivia All exports of live wildlife have been prohibited since 1 May 1984.

Brazil All wildlife exports have been banned since 1967.

Colombia Commercial hunting of all birds has been prohibited since January 1973 under Resolucion No. 849.

Ecuador All exports of indigenous wildlife have been prohibited since 1983, except for educational or scientific purposes.

French Guiana Covered by CITES controls as an overseas department of France. Sale and purchase of this species have been banned from May 1986.

Guyana Parrots are not protected in Guyana but are open for exploitation for the local and overseas pet trade. The numbers exported are controlled by export quotas; however the quotas are not determined on precise quantitative surveys (Niles, 1981). A 1987/88 quota of 1500 has been established (Thomsen, 1988).

Peru All commercial hunting of wildlife in the Selva region, east of the Andes, has been prohibited since 1982. The species is not included in the list of parrots allowed for export (CITES Notification to the Parties No. 389, 7 May 1986).

Suriname Since 1970, hunting and trade of native birds and mammals has been prohibited except for listed game or domestic species. An annual export quota of 500 was established for 1987 (Thomsen, 1988).

Trinidad and Tobago Not protected.

Venezuela With few exceptions, all hunting of indigenous wildlife has been prohibited since 1970.

CAPTIVE BREEDING Perhaps the most difficult macaw to adapt to captivity (Low, 1986a); few have survived more than two years in captivity and it has only been bred on three occasions (Low, 1988).

MILITARY MACAW

Recommended list: 2*
[Possible problem]

Ara militaris (Linné, 1766)

Order PSITTACIFORMES

Family PSITTACIDAE

* Transferred to CITES Appendix I in 1987

SUMMARY AND CONCLUSIONS This species comprises three subspecies and has disjunct populations in Mexico, Colombia, Venezuela, Ecuador, Peru, Bolivia and Argentina. It may have also occurred in Guatemala but there are no recent records. In 1980 it was reported as remaining quite numerous in the north-east and west of Mexico, but it had become very rare in the south of that country. In Colombia quite large numbers have been seen in one area in recent years. In Ecuador, Peru and Bolivia there are several recent records involving small numbers of birds, but in Argentina it is regarded as very scarce. In Venezuela there is very little current information on the numbers occurring. Inhabits canyons and steep wooded slopes in or adjacent to mountainous terrain, often ranging out onto more level plains to feed.

The recorded trade during 1981-85 ranged from 39 in 1985 to 352 in 1982. In 1981 and 1983 nearly all birds originated in Bolivia; in 1982 they were mainly from Mexico and Bolivia; in 1984 Uruguay (a non-range country) exported 36 and there were 11 from Ecuador. The species is protected in Argentina, Bolivia, Colombia, Ecuador, Guatemala, Peru and Venezuela. The export from Mexico has been banned since 20 September, 1982.

DISTRIBUTION This species comprises three subspecies and has disjunct populations in Mexico, Colombia, Venezuela, Ecuador, Peru, Bolivia and Argentina. It may have also occurred in Guatemala but there are no recent records.

A. m. militaris (Linné): tropical zone of Colombia, north-western Venezuela, eastern Ecuador and northern Peru.

Colombia Occurs in several disjunct populations: in the north-east from the western base of the Santa Marta Mountains east to the Perija Mountains and south on the eastern slope of the Central Andes to northern Antioquia, also on the western slope of the Eastern Andes south to Bucaramanga; middle Cauca Valley west to the western base of the Western Andes and south sporadically to the Dagua Valley; the eastern slope of the upper Magdalena Valley east to the eastern base of the Eastern Andes from the Macarena Mountains (Blake, 1962) to western Putumayo (Hilty and Brown, 1986).

Ecuador Seen in flocks in Sangay National Park in August 1979 (Ridgely, 1980, apparently the only 20th century record (Ridgely, 1982).

Peru Occurs primarily to the east of the Andes, "apparently all along the base...but very local" (O'Neill, 1981), but has been regularly recorded as a temporary migrant at Taulis (6°50'S) on the Pacific slope, normally in September and October (Koepcke, 1961). Recorded from Fundo Sinchona, between Ucayali and Huallaga, Huanuco (Traylor, 1958), also Tingo Maria, Huanuco, cliffs along the Rio Quempiri, southern Junin, and cliffs along the Rio Apurimac, Cuzco (Ridgely, 1982).

Venezuela Two disjunct populations are found in Venezuela: one in north-west Zulia at La Sierra, Sierra de Perija; and the other in the Distrito Federal at San Jose de los Caracas and in northern Miranda (Meyer de Schauensee and Phelps, 1978; Ridgely, 1982). Occurs in Guatopo and Henry Pittier National Parks (Ridgely, 1979, see Nilsson and Mack, 1981).

A. m. mexicana Ridgway Three disjunct populations occur in Mexico: one in the east, from Zacatecas south to Mexico; another along the Pacific coast from Sonora as far south as Oaxaca; and another in southern Chiapas. The latter may originally have extended to Guatemala. Some authorities consider the races occurring in the west to be a separate subspecies (*A. m. sheffleri*).

Guatemala There are no recent records from Guatemala, although there is a 19th century account of this species nesting in a ravine 40 km south of the Mexican border (Gardner, 1972; Rowley, 1984).

Mexico Recorded from Tamaulipas (Sierra Madre, Rio de la Cruz); Mexico (Temascaltepec); Guanajuato; Zacatecas (Sierra Madre); Sonora (Quiriego); Sinaloa (Mazatlan, Presidio de Mazatlan, Plomosas, Coyoatlan, Escuinapa); Jalisco (San Sebastian, Barranca Beltran, Barranca Ibarra, Huamelula near Zapotlan, Agosto); Michoacan (south of Morelia); Colima (Manzanillo, Rio de la Armeria, Culeta); Guerrero (Acapulco); Oaxaca (mountains north-west of Tehuantepec); Nayarit (San Blas) (Ridgway, 1916). Stager (1954) found the species in Chihuahua, at Barranca de Cobra, and Gardner (1972) recorded a small population in southern Chiapas.

A. m. boliviana Reichenow Restricted to tropical parts of Bolivia and extreme north-western Argentina. Only doubtfully distinct from *A. m. militaris* (Forshaw and Cooper, 1978).

Argentina The only area where this species still exists is around Rio Itau in northern Salta (Nores and Yzurieta, 1983). Nores and Yzurieta 1984a thought that it was exterminated in Jujuy but Ridgely (1982) was told that it occurred in the Serrania de las Pavas.

Bolivia Recorded from Rio Azero, Chuquisaca (Bond and Meyer de Schauensee, 1943); Rio Surutu and near Masicuri, Santa Cruz; and Yacuiba, Tarija (Remsen et al., 1986); near Samaipata and Abapo, Santa Cruz (Nores and Yzurieta, 1983); Huacareta and Villa Montes, Chuquisaca (Lanning, 1982, see Nores and Yzurieta, 1983); the proposed Amboro National Park, Santa Cruz (Clarke, 1985).

POPULATION Very locally distributed, but often common where it does occur. More numerous in northern Mexico than in South America. The population is probably less than that of any other wide-ranging macaw, but it has probably also declined less (Ridgely, 1981).

Argentina Nores and Yzurieta (1983) reported that the species was almost exterminated in Argentina despite large areas of unaltered habitat. Said to be rare and in a critical condition (Argentina CITES MA, 1985).

Bolivia Nores (*in litt.* to W. Belton, 22 November 1982) believed the species to be not too scarce in Bolivia. The population was thought to be low and probably declining, although it was more common than in Argentina (Nores and Yzurieta, 1983).

Ara militaris

Colombia Said to be extremely local, but may be numerous where they occur (Ridgely, 1977, cited in Forshaw and Cooper, 1978). Todd and Carriker (1922) claimed that they were the most common macaws in the vicinity of Santa Marta. Ridgely (1981) reported that large roosting flights of 50-100 birds had been observed in this region and Hilty and Brown (1986) found that they were still fairly common on the northern slopes. Ridgely (1982) found it to be more sporadic and less numerous in the Andes.

Ecuador Ridgely (1982) stated that it was rare and local, but that there was no evidence of any decline.

Guatemala Probably extinct (Gardner, 1972).

Mexico Said to be rather rare (Edwards, 1972). Ridgely (1981) considered that although the species was very rare in the south it remained quite numerous in the north-east and west. Declines in numbers had been relatively slight, and large flights had been witnessed in recent years in several areas on both slopes. Short (1974) reported seeing this species in small groups about every other day in southern Sonora. Van Rossem (1945) found it to be a common resident of the foothills and mountains of south-eastern Sonora. In Durango, Fleming and Baker (1963, see Forshaw and Cooper, 1978) recorded pairs or small groups of up to 20 birds. Ridgely (1982) reported that it was still quite common in Nayarit. It was reported as not common in Colima (Schaldach, 1963). Nilsson and Mack (1980) pointed out that there were no recent records from Guerrero, and Ridgely (1981) stated that there was no incontrovertible record from Oaxaca, asserting that the species almost certainly no longer occurred in the state. However Rowley (1984) has subsequently published a report of one pair of *A. militaris* nesting in Oaxaca in 1966. The isolated population in Chiapas was said to be on the verge of extinction in 1963, having declined from 30 to 40 pairs over a few years. Their demise was hastened by the shooting of two specimens (Gardner, 1972). Ridgely (1981) reported that the population in the north-east of Mexico remained more numerous. In 1975, he saw large flocks in eastern San Luis Potosi (see Forshaw and Cooper, 1978). In the Gomez Farias region of south-west Tamaulipas, Sutton and Pettingill (1942) noted this species almost daily.

Peru Listed as ranging from rare to local and uncommon in humid montane forest (Parker et al., 1982). Described as uncommon to common wherever cliffs are available for nesting (O'Neill, 1981). Said to be seasonally common around Tingo Maria, Huanuco (Ridgely, 1979, see Nilsson and Mack, 1980). Occurs regularly as a seasonal visitor to Taulis (6°50'S) on the Pacific slope, where a flock of 50 was once observed (Koepcke, 1961).

Venezuela Ridgely (1982) knew only of one small population in the Guatopo National Park in Miranda; he thought that it must be infrequent or extirpated in the Distrito Federal but that the population on the Sierra de Perija must be secure and stable.

HABITAT AND ECOLOGY. Favours canyons and steep wooded slopes in or adjacent to mountainous terrain, often ranging out onto more level terrain to feed. Nesting has been recorded in hollow trees but preferentially occurs in cliffs and ravines, and this may explain the patchy distribution (Ridgely, 1981).

THREATS TO SURVIVAL Ridgely (1981) considered that man had had little impact on populations of *A. militaris* in southern Mexico, and that the declines were due to unknown natural causes. Trade appeared to have had little effect, even in Mexico, where it was heaviest. However 200 birds of this species, nearly all of Mexican origin, were seized or reported as smuggled into the USA between 1978 and 1981 (Nilsson, 1981) and 30 birds, destined for

Singapore, were smuggled out of Guatemala in January 1987 (Anon., 1987c). The species had been considered a pest by farmers in the Gomez Farias region of Mexico (Sutton and Pettingill, 1942). Schaldach (1963) reported that little or no hunting of this species was carried out in Colima. Parker (*in litt.*, 6 January 1986) considered that *A. militaris* was threatened by habitat destruction by farmers and tea planters on the eastern slopes of the Andes in Peru, although he cautioned that it may always have occurred locally in small numbers. Collecting for the pet trade was said to be threatening *A. m. boliviana* with extinction in Argentina and possibly Bolivia. It is trapped with nooses in Bolivia, and one trapper claimed to have caught about 50 Military Macaws (Nores and Yzurieta, 1983).

INTERNATIONAL TRADE Minimum net imports reported to CITES from 1981 to 1984 varied from 352 in 1982 to 39 in 1985. The main importing countries were the USA, Sweden and F.R. Germany (Table 1). The majority of exports originated in Bolivia, although in 1982 Mexico was the main exporter (Table 2). Ridgely (1981) claimed that Mexico had been the major exporter of *A. militaris* prior to 1980. Figures supplied by the Santa Cruz regional wildlife management authority indicate the exports of this species from Bolivia totalled 1246 from 1980 to 1983, suggesting that the CITES reports may have under-estimated the trade.

The figures for imports to the USA recorded in the CITES Annual Reports are in some cases apparently much lower than the actual trade. Nilsson (1985), using quarantine mortality forms, arrived at the following figures: - 1981: 282, 1982: 205, 1983: 157, 1984: 0. This gives a total for the four years of 644 compared with the total from the CITES reports for the same period of 372. Of the former total 528 originated in Bolivia, 115 in Mexico and 1 in Guatemala.

CONSERVATION MEASURES All of the range states except Mexico are Parties to CITES. The following information was mainly extracted from Fuller et al., (1987).

Argentina Not included in a list of species regarded as harmful (CITES Notification to the Parties No. 412, 28 November 1986) and therefore fully protected.

Bolivia Prohibited from all hunting and trade under Decreto Supremo No. 16605, 20 June 1979. The validity of this listing has been questioned, but all exports of live wildlife have been prohibited since 1 May 1984.

Colombia Commercial hunting of all birds has been prohibited since 1973 under Resolucion No. 849.

Ecuador All exports of indigenous wildlife have been prohibited since January 1983, except for educational or scientific purposes.

Guatemala All hunting, capture and export was suspended on a temporary basis from 24 March 1986 (CITES Notification to the Parties No. 386, 7 May 1986).

Mexico Not a Party to CITES. Commercial export and import of most wildlife has been prohibited since 20 September 1982.

Peru All commercial hunting of wildlife in the Selva region, east of the Andes has been prohibited since 1973. Not included in a list of species allowed for export (CITES Notification to the Parties No. 389, 7 May 1986).

Venezuela With few exceptions, all hunting of indigenous wildlife has been prohibited since 1970.

Ara militaris

CAPTIVE BREEDING This species is reported to be one of the two least common macaws in captivity. Few breeding successes have been recorded until the late 1970s (Low, 1986a).

Table 1. Minimum net imports of live *A. militaris* reported to CITES.

	1981	1982	1983	1984	1985
Austria	-	-	1	-	1
Canada	12	17	3	-	12
China	-	-	5	-	-
France	-	-	-	10	-
Germany, F.R.	15	37	21	-	-
Italy	-	-	-	36	-
Japan	-	-	1	-	-
Korea	-	-	-	5	-
Sweden	-	98	1	-	-
Switzerland	1	5	1	-	1
USA	82	185	105	-	23
Unknown	-	10	-	-	-
UK	-	-	-	-	2
TOTAL	110	352	138	51	39

Table 2. Reported countries of origin or export for exports of live *A. militaris* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. militaris</i>					
Bolivia	106	129	132	2	2
Ecuador	-	-	-	11	-
Mexico	-	212	1	-	1
Venezuela	-	3	1	1	-
Countries without wild populations of <i>A. militaris</i>					
Belgium	-	2	-	-	1*
Dominican Republic	1	-	-	-	12
Germany, F.R.	-	3	-	-	-
Guyana	-	5	5	-	20
Hong Kong	-	-	2	-	-
Uruguay	-	-	-	36	-
USA	-	-	3	4*	-
Unknown	4	-	2	-	3

* captive-bred

RED-SHOULDERED MACAW

Recommended list: 2
[Possible problem]

Ara nobilis (Linné, 1758)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS The species comprises two or three subspecies and is found in Brazil, Bolivia, Peru, Venezuela, Guyana, Suriname and probably French Guiana. In 1980 it was considered to be somewhat local in occurrence but usually fairly common. More specifically it has recently been regarded as common in Suriname, plentiful and well-distributed in Guyana, common in Roraima, Brazil, and common at the only locality in which it has so far been recorded in Bolivia. It is only known from one locality in Peru where it was seen in small flocks in 1977; its status in Venezuela is unknown and no published record has been traced for French Guiana. The only evidence of population decline is in southeastern Brazil but this is uncertain and unexplained. Inhabits a variety of semi-open habitats including buriti palm stands, gallery woodland and sparse caatinga woodland.

The recorded trade during 1981-85 increased from 760 in 1981 to a maximum of 1211 in 1982, and then declined to 423 in 1985. Until 1985 virtually all of the birds in trade originated in Bolivia and Guyana, but no exports from Bolivia were reported in 1985. The species is protected in Suriname and Venezuela. Export is banned in Brazil, Peru and (from 1 May, 1984) Bolivia. Trade is regulated in Guyana.

Since the species is fairly widely distributed and locally common it is unlikely that the present level of trade is affecting its overall status. However the situation in Bolivia, whence 1017 birds were exported in 1982 needs clarifying; if the species is restricted to one locality trade may seriously affect its status in that country; although, at present, exports are prohibited.

DISTRIBUTION Occurs over a disjunct range, mostly in eastern South America; from the Guianas and eastern Venezuela south to southern Brazil and central Bolivia (Forshaw and Cooper, 1978). Its possible occurrence in Trinidad is based on a sight record of two birds in Nariva swamp (described as 'extremely unsatisfactory' by Ffrench, 1973) which was cited by Belcher and Smoker (see Junge and Mees, 1958) for 1934. The only other records are an inadequately documented specimen in the British Museum and one, probably escaped, bird seen in 1968 (Ffrench, 1973).

Three subspecies are recognised by Forshaw (in Forshaw and Cooper, 1978), however he suggests that *longipennis* should be viewed as a synonym of *cumanensis*, considering the minor differences in measurements and the evidence of Stager (1961) who reported a north-south cline of increasing size south of the Amazon. Considering this, and the lack of information describing the distribution of these two races in Brazil, only two subspecies are recognised here, the nominate and *cumanensis*.

A. n. nobilis

Brazil Occurs north of the Amazon in the north-east of the country in Rio Branco, extreme northern Para and Amapa (Ridgely, 1982). Also recorded in the lowland forest of Matriz do Camaragibe, north-eastern Alagoas in 1984 (Teixeira et al., 1986).

Ara nobilis

French Guiana Probably occurs (Ridgely, 1982), however no published record has been located.

Guyana Widespread in sand belt forests; coastlands from Mabaruma west, forest fringed savannas, coastal plantations, Buxton, Hyde Park, inland to Bartica, Upper Takutu Mountains and Rupununi River (Snyder, 1966).

Suriname Found in sandy savannas and sometimes in the coastal region (Haverschmidt, 1968). Occurs in Raleigh Falls/Voltzberg National Park (Donahue and Pierson, 1982).

Venezuela Occurring in the extreme eastern corner of the country in eastern Monagas (Maturin); Delta Amacuro (Capure); Bolivar along the lower Rio Caura and in the Gran Sabana (Meyer de Schauensee and Phelps, 1978).

A. n. cumanensis (Lichtenstein, 1823) [including *longipennis* (Neumann, 1931) see above]. The recent records from Bolivia and Peru are well to the west of the species' formerly known range and it is unknown whether it is continuous across the Mato Grosso, Brazil (Ridgely, 1981).

Bolivia Observed in 1976 at Estancia Inglaterra near the Rio Yata, Beni (Remsen and Ridgely, 1980). West (1979) reported that the species was restricted to the Department of Beni.

Brazil South of the Amazon. The precise distribution of the species in Brazil is poorly documented. Ridgely (1982) reported it to occur from eastern Para, Maranhao and central Piaui south through western Bahia, western Minas Gerais, and Goias to north-western Sao Paulo; to the west it ranges to north-western and southern Mato Grosso (west as far as Chapada and Tres Buritys). Naumburg (1930) described early records from the south-east coastal lowlands of Espirito Santo (Rio Doce) and Rio de Janeiro. Scott and Brooke (1985) confirmed the species' occurrence in Espirito Santo (in Sooretama Biological Reserve) but did not see it in four reserves in Rio de Janeiro. According to Stager (1961) *cumanensis* intergrades into *longipennis* in central Goias.

Peru Recently reported from the Pampas de Heath, Madre de Dios on the Peru-Bolivia border; small flocks and pairs were seen in June-July, 1977 (Graham et al., 1980).

POPULATION Somewhat local, even across semi-open central Brazil, but usually fairly common where it does occur. Its habitats are not being extensively modified by man and it is not seriously persecuted. Populations are described as generally quite stable (Ridgely, 1981). Nores and Yzurieta (1983) said the species occurred irregularly throughout a large part of its range but that it was locally common.

Bolivia One of the most common parrots at Estancia Inglaterra, Beni in 1976, an average of 20 to 30 individuals were observed each day in November-December by Ridgely (Remsen and Ridgely, 1980). Ridgely (1982) stated that either the species is extremely local, or it has been overlooked until recently; the latter explanation was thought most likely.

Brazil Locally fairly common over a wide area of the interior but apparently has declined considerably in the south-east. Scott and Brooke (1985) described it as uncommon in Sooretama Biological Reserve, Espirito Santo in south-eastern Brazil. Roth and Scott (1985) found it fairly common in the Pindare and Mearim valleys, Maranhao in October 1985.

Roth (*in litt.*, 17 December, 1985) reported that *A. n. cumanensis* was locally abundant and rarely caught for avicultural reasons. Described as common in the Territory of Roraima, Brazil (Moskovits *et al.*, 1985).

French Guiana No information.

Guyana Young (1929) described it as more common in plantations and on waste ground near the coast than in the savannas further inland. It is plentiful and well-distributed in Guyana (Niles, 1981). Common around Abary River (Snyder, 1966). Forshaw (*in* Forshaw and Cooper, 1978) found it quite abundant in a variety of wooded habitats in coastal Guyana.

Peru Its presence in the country was confirmed in 1977 at Pampas de Heath, Madre de Dios (Graham *et al.*, 1980). O'Neill (1981) reported that it was fairly common at Pampas de Heath and that it could probably tolerate some local habitat alteration if not persecuted.

Suriname Haverschmidt (1968) stated that it was common, often occurring in large flocks and Donahue and Pierson (1982) described the species as common in Suriname.

Venezuela Frequently seen in large noisy flocks (Meyer de Schauensee and Phelps, 1978). No other status information is known.

HABITAT AND ECOLOGY. Found in a variety of semi-open habitats including *Mauritia* palm stands, gallery woodland and sparse caatinga woodland. North of the Amazon this habitat preference reportedly restricts its distribution although in such areas it is also found around marshy areas and on natural savannahs and campinas (Ridgely, 1981). Found mostly in the lowlands but in some areas occurs up to 1200m-1400m (Ridgely, 1982). Diet consists of seeds, berries, fruits, nuts and blossoms, procured in the treetops. Nesting has been recorded in holes in the trunks of living palms, at the base of palm fronds, in dead palms and in an arboreal termitarium (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Quite uncommon in captivity, though small numbers are regularly exported, principally from Guyana. Such trade is not thought to have affected wild populations so far (Ridgely, 1981).

Bolivia None known. Of 3455 specimens imported into the United States between 1979 and 1982, 2707 were reported to have originated in Bolivia. Although the species was still quite common in Beni, it was thought that the continued export of large numbers from its limited area of distribution would soon cause the population to decline and therefore the trade should not be allowed (Nores and Yzurieta, 1984a). Nores and Yzurieta suggested that if the trade in this species was allowed to continue in the future, exports should not be allowed to exceed 10% of numbers in trade in recent years.

Brazil None known. Rarely caught for aviculture (P. Roth, *in litt.*, 17 December, 1985)

French Guiana None known.

Guyana None known. Recorded exports in 1978 and 1979 were 421 and 451 respectively (Niles, 1981).

Ara nobilis

Peru None known.

Suriname None known.

Venezuela None known.

INTERNATIONAL TRADE Quite uncommon in trade (Ridgely, 1981). Listed in CITES Appendix II in 1981.

Table 1. Minimum net imports of live *A. nobilis* reported to CITES

	1981	1982	1983	1984	1985
Belgium	23	8	-	15	-
Canada	18	10	-	34	-
Denmark	-	-	-	-	31
Germany, F.R.	-	28	13	80	64
Netherlands	-	10	-	-	28
South Africa	-	6	2	-	3
Spain	-	2	-	-	2
Sweden	-	-	24	-	-
Switzerland	-	-	2	-	-
UK	20	57	-	94	30
USA	631	1090	1028	551	265
Unknown	68	-	-	-	-
TOTAL	760	1211	1069	774	423

The United States reportedly imported an average of 85% of the birds recorded in trade each year. The number of birds in trade varied from 760 in 1981 to 1211 in 1982 and averaged 850 over the period 1981-1985.

Table 2. Reported countries of origin or export for exports of live *A. nobilis* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. nobilis</i>					
Bolivia	494	1017	459	76	-
Guyana	246	174	606	664	423
Suriname	20	20	2	30	-
Venezuela	-	-	2	-	-
Countries without wild populations of <i>A. nobilis</i>					
Argentina	8	-	-	-	-
Netherlands	-	-	-	4*	-

* captive-bred

The majority of recorded trade originated in Guyana and Bolivia. Smaller numbers were reportedly exported by Suriname and a few from Venezuela, Argentina (where the species does not occur) and the Netherlands (captive-bred). In 1981 and 1982 Bolivia was apparently the largest source of birds in trade, however by 1984 far fewer specimens were reported from that origin and Guyana exported 86% of the birds in that year. In 1985 all reported trade originated in Guyana. Recent reported levels of export from Guyana can be compared with those recorded in 1978 and 1979, which averaged 436 birds each year (Niles, 1981; see Threats above).

CONSERVATION MEASURES All of the range countries are Parties to CITES. The following information is from Fuller et al. (1987) unless otherwise indicated.

Bolivia All exports of live wildlife have been prohibited since 1 May 1984.

Brazil All wildlife exports have been banned since 1967.

French Guiana Covered by CITES controls as an overseas department of France. Purchase and sale of this species has been prohibited since May 1986.

Guyana Parrots are not protected in Guyana but are open for exploitation for the local and overseas pet trade. The numbers exported are controlled by export quotas; however the quotas are not determined on precise quantitative surveys (Niles, 1981). The 1987/1988 quota is 1000 (Thomsen, 1988).

Peru All commercial hunting of wildlife in the Selva region, east of the Andes, has been prohibited since 1982. The species is not included in a list of species allowed for export (CITES Notification to the Parties No. 389, 7 May 1986).

Suriname Since 1970, hunting and trade of native birds and mammals has been prohibited except for listed game or domestic species. *A. nobilis* is not listed as a game species. An annual export quota of 185 was set for 1987 (Thomsen, 1988).

Venezuela With few exceptions, all hunting of indigenous wildlife has been prohibited since 1970.

CAPTIVE BREEDING First bred in the United Kingdom in 1949 and since then has proved to be a consistent and prolific breeder in several collections (Low, 1986a). Bred regularly in Denmark in recent years (P. Then, cited in Ridgely, 1982).

CHESTNUT-FRONTED MACAW

Recommended list: 2
[Possible problem]

Ara severa (Linné, 1758)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A monotypic species occurring in Panama, Colombia, Venezuela, Guyana, Suriname, French Guiana, Brazil, Bolivia, Ecuador and Peru. In 1982 it was considered to be fairly common over most of its range with a stable population overall. It was thought that localized declines were probably about equalled by slight increases elsewhere. More specifically it has recently been regarded as common in northern Bolivia, Ecuador, eastern Peru and very locally in Panama. It is considered uncommon in Suriname, declining in Colombia and rare in Guyana and parts of northern Brazil. It is a lowland species which favours varzea forest, small clearings and the adjacent forest edge, occasionally in gallery forest.

The recorded trade during 1981-85 ranged from 18 in 1985 to 2680 in 1983, virtually all originating in Bolivia. The species is protected in Colombia, Ecuador, Panama and Venezuela. Export is banned in Brazil, Peru and Bolivia, and trade is regulated in Guyana and Suriname.

The current level of trade is unlikely to affect populations of this species except locally, but if the Bolivian export ban is lifted the trade should be carefully monitored.

DISTRIBUTION Found widely across the northern half of South America. Range extends from eastern Panama (Darién) through northern Colombia, Venezuela and the Guianas south across all of Amazonia to northern Bolivia and central Brazil (reaching northern Mato Grosso and north-western Maranhão). An isolated population occurs west of the Andes in western Ecuador (Ridgely, 1982). Forshaw and Cooper (1978) recognise two subspecies, the nominate and *castaneifrons* (the former occurring in the north-east of the range), however Wetmore (1968) stated that they were probably not separable and the species is treated here as monotypic.

Bolivia Found in tropical forest and Sabanas in the north of the country (Mercado, 1985). Found in Santa Cruz, Cochabamba, Beni and the east of La Paz and Pando. Recorded in the Rio Ichilo and 1° de Mayo regions of Santa Cruz (Nores and Yzurieta, 1983). Recorded from Rio Surutú, Santa Cruz, Chi'iri, La Paz, Palmar and Todos Santos, Cochabamba (Bond and Meyer de Schauensee, 1943). Listed as present in the Amoro proposed National Park (Clarke, 1985). West (1979) listed it as occurring in the areas of Pando, La Paz and Beni in the north of the country.

Brazil Distributed from Amazonas to Mato Grosso (Sick, 1984), northern Góias and east to north-western Maranhão. The old record from south-eastern Bahia is considered dubious (Ridgely, 1981). Recorded from Mato Grosso (No Panças, Sso Joao, Engenho do Cap. Gama); Para; Rio Negro; and Amazonas (Rio Jurua, Rio Javary, Tefé and Mexiana Island) (Naumburg, 1930). A single specimen was collected in 1935 at Castanhua in the Rio Purus region, Amazonas (Gyldenstolpe, 1951).

Colombia Found up to 1000 m from the Pacific coast south to the Baudo Mountains, east through the upper Rio Sinu and formerly throughout the Cauca Valley (now only along the northern base of the Andes) and the middle Magdalena Valley south to Antioquia. East of the Andes it has been recorded from Norte de Santander southward (Hilty and Brown, 1986).

Ecuador Present in both the east and west of the country (Pearson, 1975b). Recorded from Rio Napo, Chimbo, and Forreste del Rio Peripa (Ridgway, 1916). It occurs west of the Andes locally from Pichincha to southern Guayas and is widespread east of the Andes in the Amazon drainage (Ridgely, 1982).

French Guiana Recorded from "Cayenne" (von Berlepsch, 1908).

Guyana Snyder (1966) reported that the species was known from only one specimen collected by Schomburgk. McLoughlin (1970) found one breeding pair.

Panama Mainly in Darién and eastern Panama Province (Ridgely, 1976). Found in the tropical zone of Darien, especially in the middle and upper valleys of the Rio Tuira (Rio Seteganti on Cerro Pirre, Boca de Paya, Pucro), and the Rio Chucunaque (mouth of the Rio Tuquesa). Formerly found in the northern Canal Zone (Lion Hill) (Wetmore, 1968). Ridgely (1976) reported recent sightings from the Canal Zone, including the Pacific slope, saying they were either wandering birds from further east, or escaped cage birds.

Peru Present in Manu National Park (Terborgh et al., 1984). Recorded from the Apurimac Valley (Terborgh and Weske, 1969, see Forshaw and Cooper, 1978). Ridgely (1982) recorded it as widespread in the lowlands east of the Andes, though absent from the Huallaga River Valley.

Suriname Found in the coastal region in swamp forest between sand ridges; recently observed near Paramaribo (Haverschmidt, 1968). Observations by Scharringa (1974) in the south-west of the country at Coeroeni Airstrip, Nickerie show that the species also occurs in the interior. Recorded in Raleigh Falls/Voltzberg National Park (Donahue and Pierson, 1982).

Venezuela Described as occurring in Zulia, Tachira, western Apure, Merida, western Barinas and in Carabobo and Aragua; north-west Bolivar; Amazonas along the Orinoco (Meyer de Schauensee and Phelps, 1978). Ridgely (1982) described it as widespread in the more humid parts of the Maracaibo basin, and also found locally along the north east in Carabobo and Aragua; also found widely in the upper Orinoco basin from Basinas east to Guarico and north-western Bolivar. Seemingly absent from all of eastern Venezuela.

POPULATION Ridgely (1982) believed that the species remained common and conspicuous in the major part of its range and he suggested that localised declines due to increased human population were probably equalled by localised increases in areas of partial deforestation.

Bolivia Said to be not frequently observed in the Amazonian zone (Olrog, 1963). Described as common in the forests of the Andean foothills in Beni (Niethammer, 1953, see Forshaw and Cooper, 1978). Nores and Yzurieta (1983) described it as fairly common in the Rio Ichilo and 1° de Mayo regions of Santa Cruz and also in Cochabamba. They thought that it was probably relatively common in Beni, eastern La Paz and Pando. They cautioned that continued capture for export at the high levels experienced in recent years would soon cause serious population decline.

Brazil Little evidence of recent change in overall numbers; apparently extirpated from the Zona Bragantina around Belem, and now found in smaller numbers around the larger towns and cities of Amazonia (Ridgely, 1982). Described as rare at Alaraca ecological station and adjacent areas in Roraima (Moskovits et al., 1985).

Ara severa

Colombia Included in a preliminary 'blue list' of species with declining populations (Hilty, 1985). Largely extirpated from the Cauca and Magdalena Valleys by virtually complete deforestation, but no declines have been noted east of the Andes (Ridgely, 1982). Described as common in Los Katios National Park (Rodriguez, 1985).

Ecuador Said to be very common in the Limonococha area (Pearson, 1975), and still frequent at Rio Palenque in 1978 (Leck, 1979). Butler (1979) listed it as very frequently seen in western Ecuador and frequent in the eastern part of the country. Ridgely (1982) considered that it had declined considerably in western Ecuador owing to very extensive deforestation, but considered it still numerous in eastern areas of the country.

French Guiana No recent records.

Guyana Said to be rare and local (Ridgely, 1982).

Panama Described as fairly common in eastern Panama Province and Darien, and the macaw most likely to be seen in the Canal Zone, though now only as a vagrant or escape (Ridgely, 1976). Locally fairly common in Darién (Wetmore, 1968). Common at Cana, Cerro Pirre, Darien (Robbins et al., 1985).

Peru Parker et al. (1982) listed it as common in Peru. O'Neill (1981) described it as common to abundant, apparently rarely persecuted and tolerant of scattered clearing and human disturbance. Listed as common in Manu National Park (Terborgh et al., 1984).

Suriname Haverschmidt (1968) reported that it was still fairly common on the sand ridges near Paramaribo. Donahue and Pierson (1982) described it as uncommon. Observed in small numbers at Coeroeni Airstrip, Nickerie in 1968 (Scharringa, 1974).

Venezuela Said to be quite common west of Puerto Cabello, Carabobo (Schafer and Phelps, 1954, see Forshaw and Cooper, 1978). Ridgely (1982) thought it may have declined in the western Llanos due to massive deforestation and that it was now probably more local in northern Venezuela than it was formerly; numerous in the partially deforested Maracaibo basin.

HABITAT AND ECOLOGY. Primarily a lowland bird, favouring varzea forest, small clearings and adjacent forest edge; in some areas, such as Venezuela, it occurs in gallery forest (Ridgely, 1982). The food consists of seeds, fruits, nuts and berries, procured in the treetops. Nesting has been reported in hollow trees in February and March in Panama, and in May in Suriname (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Nores and Yzurieta (1984a) believed trade could pose a threat to the species at least in Bolivia if current capture rates continue. Ridgely (1981) reported that this species was in no great demand as an avicultural item. He said that it was relatively tolerant of habitat alteration, and could even increase after moderate forest clearance; however extensive deforestation, as had happened in western Ecuador, did result in population declines. Delgado (1985) described the illegal local traffic in *A. severa* in Panama as a priority problem.

INTERNATIONAL TRADE Minimum net imports reported to CITES increased from 1396 in 1981 to 2680 in 1983, but then fell abruptly to 465 in 1984 and only 18 in 1985. The chief importers were the USA, F.R. Germany and Canada (Table 1). Virtually all the exports apparently originated in Bolivia, although a few birds were declared from Suriname and Guyana (Table 2). The

Ara severa

dramatic fall in the trade is probably due to the ban on exports of live animals imposed in Bolivia in 1984. Export figures submitted by the Santa Cruz regional wildlife management authority indicated that a total of 8284 *A. severa* were exported from Bolivia from 1980 to 1983, indicating that the CITES figures have under-estimated the true volume of trade. Niles (1981) recorded no exports of this species from Guyana in 1978 and 1979.

Table 1. Minimum net imports of live *A. severa* reported to CITES

	1981	1982	1983	1984	1985
Bahamas	-	-	-	2	-
Belgium	-	8	-	-	-
Brazil	-	-	-	1	-
Canada	16	40	83	42	-
Denmark	-	-	-	-	2
Germany, F.R.	85	276	94	64	-
France	15	-	-	-	-
Italy	-	-	20	-	-
Korea, Rep.	-	-	-	-	2
Mexico	-	1	-	-	-
Namibia	-	-	-	-	2
Netherlands	-	44	1	1	4
South Africa	-	-	3	-	-
Switzerland	1	8	10	-	-
UK	10	20	-	-	-
USA	-	-	-	-	8
Unknown	123	-	-	-	-
TOTAL	1396	1926	2680	465	18

Table 2. Reported countries of origin or export for exports of live *A. severa* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. severa</i>					
Bolivia	1381	1907	2668	461	2
Colombia	-	3	1	-	-
Ecuador	1	-	1	1	-
Guyana	-	-	7	-	2
Panama	-	-	-	1	-
Peru	1	1	-	1	-
Suriname	13	10	3	1	12
Venezuela	-	2	-	-	-
Countries without wild populations of <i>A. severa</i>					
Germany, F.R.	-	-	1	-	-
Italy	-	3	-	-	-
South Africa	-	-	-	-	2 *
USA	-	-	15	-	-

* = captive-bred

Ara severa

CONSERVATION MEASURES All of the range countries are Parties to CITES. Most of the information on legislation in these countries was obtained from Fuller et al. (1987).

Bolivia All exports of live wildlife have been prohibited since 1 May 1984.

Brazil All wildlife exports have been banned since 1967.

Colombia Commercial hunting of all birds has been prohibited since 1973 under Resolucion No. 849).

Ecuador All exports of indigenous wildlife have been prohibited since January 1983, except for educational or scientific purposes.

French Guiana Covered by CITES controls as an overseas department of France. Purchase and sale of this species has been prohibited since May 1986.

Guyana Parrots are not protected in Guyana but are open for exploitation for the local and overseas pet trade. The numbers exported are controlled by export quotas; however the quotas are not determined on precise quantitative surveys (Niles, 1981). No export of this species was allowed under the quota system in 1987/88 (Thomsen, 1988).

Panama Protected since 1980 by Resolucion No. 002-80. A reserve of 100 000 ha, the new Darien National Park, has recently been established (Nilsson and Mack, 1980).

Peru All commercial hunting of wildlife in the Selva region, east of the Andes, has been prohibited since 1982. Not included in a list of species allowed for export (CITES Notification to the Parties No. 389, 7 May 1986).

Suriname Since 1970, hunting and trade of native birds and mammals has been prohibited except for listed game or domestic species. *A. severa* is listed as a freely traded cage bird species, which means that hunting and trade are permitted during open seasons. An annual export quota of 38 was set for 1987 (Thomsen, 1988).

Venezuela With few exceptions, all hunting of indigenous wildlife has been prohibited since 1970.

CAPTIVE BREEDING First recorded to have been bred in captivity in Copenhagen in 1954. Since then it has been bred in small numbers in a number of countries but generally it is uncommon in captivity (Low, 1986a).

BLUE-CROWNED PARAKEET
BLUE-CROWNED CONURE

Recommended list: 2
[Possible problem]

Aratinga acuticaudata (Viellot, 1817)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A widespread and common conure, ranging from the Caribbean coasts of Colombia and Venezuela through Brazil, Bolivia, Paraguay and Uruguay to northern Argentina. Characteristic of more arid environments, and not found in continuous humid forest. Populations are thought to be stable and nowhere in danger. The species is not threatened by habitat destruction. Usually feeds in large flocks, and has been reported to attack corn crops.

Minimum net imports reported to CITES increased from 6683 in 1981 to 18 642 in 1983 and then continued at a level in excess of 15 000 birds a year until at least 1985. The majority of the exports apparently originated in Argentina and Bolivia. Exports from Argentina have been steadily increasing since 1981, but those from Bolivia showed a marked decline to 750 in 1984 and nil in 1985, presumably owing to the export ban. Banned from export from all range countries except Argentina, where it is regarded as injurious.

Such a widespread and common species is undoubtedly capable of sustaining a substantial level of trade, and, until now, no serious population declines have been reported. However the levels of exports from Argentina have risen so quickly in recent years that any deleterious effects would not necessarily have been felt yet, and it is recommended that this trade continue to be monitored in relation to the population levels in Argentina.

DISTRIBUTION Disjunct range from northern Venezuela and adjacent north-eastern Colombia, locally in interior north-eastern Brazil and widely from eastern Bolivia and south-western Brazil, south through Paraguay to north-central Argentina and Uruguay (Ridgely, 1982).

Forshaw and Cooper (1978) follow the taxonomy suggested by Blake and Traylor (1947) who divided *A. acuticaudata* into three subspecies - *acuticaudata*, *haemorrhous* and *neumanni*. Phelps and Phelps (1958) considered that *A. a. neoxena* (Cory) was separate from *A. a. haemorrhous*.

A. a. acuticaudata (Viellot):

Argentina Northern Argentina, from Corrientes, Salta, Formosa, Chaco, Santa Fe, Santiago del Estero, Buenos Aires, Pampa, Tucuman (Blake and Traylor, 1947), Cordoba (Nores et al., 1983), San Juan and Misiones (Short, 1975).

Bolivia Lowlands of eastern Bolivia in Santa Cruz (Blake and Traylor, 1947) and Chuquisaca (Nores and Yzurieta, 1984b). Recorded from Tatarenda, Santa Cruz (Lönnerberg, 1903).

Brazil Extreme south-western Mato Grosso (Urucum de Corumba) (Blake and Traylor, 1947). Short (1975) claimed that the distribution extended to south-western Rio Grande do Sul, it seems erroneously, as the species is not mentioned by Belton (1984).

Paraguay Recorded widely throughout the country, with the possible exceptions of the most arid western chaco and the cooler and more humid south-east (Ridgely, 1982).

Aratinga acuticauda

Uruguay No specimens have been recorded since those of Barattini (1945, see Gore and Gepp, 1978), but Ridgely (1982) expected it to occur in the extreme west or north.

A. a. haemorrhous Spix: There is a marked gap in the distribution of this subspecies. It has been recorded from the northern parts of Venezuela and Colombia as far south as northern Bolivar, and then a disjunct population from eastern Brazil. It has apparently never been recorded from Guyana, or other regions to the north of the Amazon (Blake and Traylor, 1947). Ridgely (1981) treats the two populations respectively as *A. a. neoxena* and *A. a. haemorrhous*.

Bolivia Not included in the distribution by Blake and Traylor (1947), but some birds from Santa Cruz are said to be intermediate with *A. a. acuticaudata* (Forshaw and Cooper, 1978).

Brazil Found in Piaui, Bahia, Paraiba and southern Mato Grosso (Blake and Traylor, 1947) and in Minas Gerais (Mattos et al., 1985). Some birds from Mato Grosso are intermediate with *A. a. acuticaudata* (Forshaw and Cooper, 1978).

Colombia From Guajira west to the eastern base of Santa Marta Mountains; east of the Andes it is found from Arauca south to western Meta and east to Carimagua, north-east Meta and northern Vichada (Ridgely, 1982).

Venezuela From Margarita Island southwards, recorded from Zulia, Lara and Falcon to Anzoategui, Guarico and Monagas, on the Rio Meta in south-west Apure, and along the Orinoco in northern Bolivar (Meyer de Schauensee and Phelps, 1978). Cory (1909) regarded the race on Margarita Island as a separate subspecies, *A. a. neoxena*.

A. a. neumanni Blake and Traylor:

Bolivia Known only from intermediate altitudes above 1500m, in Cochabamba and Santa Cruz. The distribution possibly extends to Chuquisaca and Tarija (Blake and Traylor, 1947).

POPULATION According to Ridgely (1982) the species is common and conspicuous in most of the southern part of its range. Northern populations are much smaller but there is no indication that either is under threat.

Argentina Described as stable, rather abundant and not in danger at the moment (Argentina CITES MA, 1986). Nores et al. (1983) said that, while it was not common in Cordoba, flocks could be seen relatively frequently. Ridgely (1981) said that this was one of the commonest parrots in the chaco of northern Argentina. Wetmore (1926) found the species to be fairly common in the open forest near Victoria, Pampa, and common at Tapia, Tucuman, where they ranged in considerable bands. Pereyra (1937, see Forshaw and Cooper, 1978) said that the species was reported to have declined in numbers in the Pampeanos Mountains.

Bolivia Nores and Yzurieta (1984b) reported flocks of 6 and 50 in Santa Cruz. Ridgely (1982) described it as numerous in the mountains of east Cochabamba and western Santa Cruz.

Brazil Sick (1984) reports it to be abundant in the north-west of Bahia. Ridgely (1982) stated that *A. a. acuticaudata* was common in south-western Mato Grosso but that *A. a. haemorrhous* was relatively uncommon and local.

Aratinga acuticauda

Colombia Quite common seasonally in certain areas; most numerous on the Guajira peninsula (Ridgely, 1982).

Paraguay Ridgely (1981) said that this was one of the commonest parrots in the chaco of western Paraguay. It can be seen in large flocks when the sorghum is being harvested, but is seldom seen during the breeding season, presumably because the pairs are more secretive Steinbacher, 1962).

Uruguay Gore and Gepp (1978) believe it to be probably a rare resident of Uruguay with only those recorded by Barattini (1945) as a basis for its occurrence. Ridgely (1982) thought that it had probably always been rare.

Venezuela Particularly in Anzoategui, marked seasonal movements are apparent, the species being quite rare from March to July but present in large flocks from August to January (Friedmann and Smith, 1950, see Forshaw and Cooper, 1978). Ridgely (1982) described it as generally not very common but apparently seasonally more numerous; perhaps more common on the Guajira Peninsula than elsewhere.

HABITAT AND ECOLOGY A bird of relatively dry regions, avoiding continuous humid forest, *A. acuticauda* is found most often in deciduous or gallery woodland; it may range into open savannah and even desert-like environments (Ridgely, 1981) up to 2650 m in Bolivia. Outside the breeding season it is usually seen in fairly large flocks. Seasonal migrations have been reported in Venezuela and Argentina. Food consists of seed, fruits, berries and nuts, procured in bushes and trees, and damage to sorghum and corn crops has been reported (Wetmore, 1926; Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Very extensive areas of virtually unaltered habitat remain, and the species is anyway quite tolerant of disturbed environments. There is no indication that it is under threat (Ridgely, 1981).

INTERNATIONAL TRADE Minimum net imports reported to CITES averaged over 14 500 per year and varied between 6683 in 1981 and 18 642 in 1983 (Table 1). The chief importers were the USA, F.R. Germany and Spain. The majority of the exports apparently originated in Argentina and Bolivia. Exports from Argentina have been steadily increasing since 1981, but those from Bolivia showed a marked decline in 1984, presumably owing to the export ban and no trade from this source was recorded in 1985 (Table 2). In 1984, Italy reported importing 250 birds from Uruguay, a country in which the species is reportedly rare, and which has a ban on wildlife exports. Significant imports were also reported from Guyana, which, unless they were misidentified, may represent birds illegally smuggled out of Brazil or Venezuela. A total of 21 176 *Aratinga* spp. were reported as having originated in Argentina in 1981. There is no indication of what species they were. Export figures supplied by the Santa Cruz regional wildlife management authority show that from 1980 to 1983 a total of 18 452 *A. acuticauda* were exported from Bolivia, indicating that the CITES figures may have underestimated the true level of trade.

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information was obtained from Fuller et al. (1987) unless otherwise indicated.

Argentina The species is included in a list of species considered as harmful (CITES Notification No. 412, 28 November, 1986).

Bolivia All exports of live wildlife have been banned since 1 May 1984.

Aratinga acuticauda

Brazil All exports of live wildlife have been prohibited since 1967.

Colombia All commercial exploitation of birds has been prohibited since 1973.

Paraguay All exports of wildlife have been prohibited since 1975.

Uruguay With few exceptions, all exports of indigenous wildlife are prohibited.

Venezuela With the exception of selected game species, all hunting and trade in wildlife has been prohibited since 1970.

CAPTIVE BREEDING The species is kept sporadically as a pet, but can be described as neither common nor rare. It has been bred in captivity in several countries but not in great numbers the first occurrence in the UK having taken place in 1971 (Low, 1986a).

Table 1. Minimum net imports of live *A. acuticauda* reported to CITES

	1981	1982	1983	1984	1985
Austria	-	10	-	-	92
Belgium	-	-	10	-	-
Canada	105	192	255	-	258
Denmark	-	-	-	30	221
Egypt	-	-	-	-	180
France	-	5	10	60	740
Germany, F.R.	409	757	390	960	603
Hong Kong	-	-	-	-	50
Hungary	-	-	-	-	50
Italy	-	-	240	300	190
Japan	-	-	15	-	-
Kuwait	-	-	-	150	163
Malaysia	-	-	-	-	8
Netherlands	-	20	-	-	-
Poland	-	-	-	-	10
Portugal	-	15	-	10	1
Saudi Arabia	-	-	-	150	80
Singapore	-	-	40	-	20
South Africa	16	8	-	-	80
Spain	-	548	175	470	496
Sweden	-	150	-	-	250
Switzerland	-	-	-	18	-
Taiwan	-	-	-	-	10
UAE	-	-	-	-	70
UK	-	-	-	-	400
USA	6153	13415	17507	12893	13828
Venezuela	-	40	-	-	-
TOTAL	6683	15160	18642	15041	17890

*Aratinga acuticauda*Table 2. Reported countries of origin or export for exports of live *A. acuticauda* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. acuticauda</i>					
Argentina	2084	7538	16067	13928	17763
Bolivia	4558	7605	2575	750	-
Uruguay	-	-	-	250	-
Countries without wild populations of <i>A. acuticauda</i>					
Guyana	-	15	-	112	125
Honduras	41	-	-	-	2
Mexico	-	2	-	-	-
Peru	-	-	-	1	-
USA	-	-	10	-	-

PEACH-FRONTED PARAKEET
PEACH-FRONTED CONURE

Recommended list: 2
[Possible problem]

Aratinga aurea (Gmelin, 1788)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Widespread in eastern South America in Suriname, French Guiana, Brazil, Bolivia, Peru, Paraguay and northern Argentina. Common in central Brazil and southern Suriname, but scarcer towards the south of the range. Found in deciduous and gallery woodlands, savannahs and other semi-open areas, avoiding continuous humid forest. Tolerates human disturbance, and may even benefit from forest clearance. Damage to agricultural crops (maize and rice) is reported in some areas.

Minimum net imports reported to CITES in the years 1981 to 1985 varied between 727 and 7470. Since 1982 the great majority of the exports originated in Argentina, but significant quantities have been reported from Bolivia and Uruguay. Protected in all range countries except Argentina.

The overall level of trade in this species is almost certainly within sustainable limits; however the reported origin of the birds in trade is of concern. The species does not occur in Uruguay and is very scarce in Argentina. It is therefore likely that a large percentage of the reported trade has either been illegally exported or has been misidentified. This should be investigated.

DISTRIBUTION Found in southern Suriname, Brazil across to eastern Bolivia and eastern Peru, north-western Argentina and Paraguay. Two subspecies are sometimes recognised, but there is evidence of a continuous north-south cline. *A. a. aurea* occurs in all northern areas, extending to northern and eastern Bolivia, eastern Paraguay and eastern Formosa in Argentina. *A. a. major* occurs in western Paraguay, northern Salta (Argentina), southern Bolivia, and the chaco in Mato Grosso (Brazil) (Short, 1975; Forshaw and Cooper, 1978).

Argentina Collected at Rivadavia, eastern Salta by Hartert and Venturi (1909), but there are no subsequent records from this area, and it is not included for Salta in Olrog (1963b). Collected at Riacho Negro and Monteagudo, eastern Formosa but only a few records (Darrieu, 1979; Argentina CITES MA, 1987).

Bolivia Recorded locally in northern and north-eastern areas from Beni and eastern Santa Cruz (Ridgely, 1982). The furthest west it has been recorded is from Buena Vista, western Santa Cruz (Darrieu, 1979).

Brazil Distributed mainly south of the Amazon, in the states of Para, Ceara, Paraiba, Bahia, Minas Gerais, Espirito Santo, Sao Paulo, Parana, Goias, Mato Grosso (Darrieu, 1979), Pernambuco (Forshaw and Cooper, 1978), Maranhao and Rio de Janeiro (Naumburg, 1930) and Amapá (Novaes 1974). Absent from Rio Grande do Sul, though it has previously been erroneously recorded there (Belton, 1984).

French Guiana No definite records have been located, but Berlepsch (1908) included this species in his list of the birds of Cayenne (=French Guiana).

Paraguay Recorded locally in the north-east, and along the Paraguay River south at least to Puerto Pinasco and Concepcion (Naumbert, 1930; Ridgely, 1982); it perhaps occurs somewhat further south as well.

Aratinga aurea

Peru Recorded from the extreme east in the Pampas de Heath, Madre de Dios (Graham et al., 1980).

Suriname A disjunct, resident population has been recorded in southern Suriname, in the Sipaliwini Savannah (Renssen, 1974b; Davis, 1979).

POPULATION Ridgely (1981) described it as common over the central part of its range, becoming more localised northwards and definitely less numerous at the southern end. The population is thought to be stable.

Argentina Scarce and localised (Olrog, 1984). It has probably always been scarce in the country (Argentina CITES MA, 1987).

Bolivia Fairly common to common over the northern part of the country, often occurring around towns (Ridgely, 1982).

Brazil In large parts of central Brazil, from Maranhao southwards, it is said to be the most abundant species, and populations locally may be increasing (P. Roth, *in litt.*, 17 December 1985). Ridgely (1982) described it as very common and widespread, its population posing no problem. Sick (1984) said it was one of the most abundant parrots. Described as rare in the Sooretama Biological Reserve, Espirito Santo, and not recorded from other reserves visited in the area (Scott and Brooke, 1985). Listed as common in the Reserva Florestal da CVRD-Linhares, Espirito Santo (Scott, 1985).

Paraguay Local and rather uncommon (Ridgely, 1982).

Peru Said to be common in the Pampas de Heath, Madre de Dios, where flocks of 2-8 individuals were seen daily (Graham et al., 1980).

Suriname The species was described as "not rare at all" in southern Suriname, in the Sipaliwini Savannah (Renssen, 1974a).

HABITAT AND ECOLOGY Found in deciduous and gallery woodlands, savannahs and other semi-open areas and to some extent in agricultural regions. It avoids continuous humid forest. The distribution is linked to areas of dry forest and isolated patches of low scrubby vegetation, growing on pockets of sandy soil, often surrounded by humid forest (Ridgely, 1981). These parrots are usually seen in flocks of ten to thirty or more, spending much of the day in trees or foraging on the ground. Food comprises seeds, fruits, berries, nuts and possibly insects (Forshaw and Cooper, 1978). Damage to agricultural crops (maize and rice) is reported in some areas (P. Roth, *in litt.*, 17 December 1986). Nests are usually made in hollow trees, with clutches of two or three eggs (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL The species is adaptable, often occurring in close proximity to man. It avoids continuous humid forest, and is therefore unlikely to be affected by deforestation (Ridgely, 1981), in fact it has been suggested that the species may become more common as a result of land clearance (Forshaw and Cooper, 1978).

Aratinga aurea

INTERNATIONAL TRADE Minimum net imports reported to CITES in the years 1981 to 1985 varied between 727 and 7470 (Table 1). The chief importers were F.R. Germany and the USA. Since 1982 the great majority of the exports apparently originated in Argentina, but significant quantities have been reported as exports from Bolivia. In 1984, 250 were reported to have been imported to Italy from Uruguay (Table 2). The species does not occur in Uruguay and is very scarce in Argentina. It is therefore likely that a large percentage of the reported trade has either been illegally exported or it has been misidentified. A total of 21 176 *Aratinga* spp. were reported as having originated in Argentina in 1981. There is no indication of what species they were. Export figures supplied by the Santa Cruz regional wildlife management authority show that from 1980 to 1983 a total of 3254 *A. aurea* were exported from Bolivia, indicating that the CITES figures may have underestimated the true level of trade.

Table 1. Minimum net imports of live *A. aurea* reported to CITES

	1981	1982	1983	1984	1985
Austria	-	15	-	-	15
Belgium	-	-	20	-	-
Canada	-	-	-	-	908
Denmark	-	-	-	-	29
France	-	100	155	-	321
Germany, F.R.	176	4208	294	2	752
Hungary	-	-	-	-	50
Italy	-	21	100	250	50
Japan	-	-	220	-	-
Malta	-	-	-	-	6
Malaysia	-	-	-	-	24
Netherlands	-	50	100	-	42
Netherlands Antilles	-	-	-	5	-
New Zealand	-	-	-	-	4
Portugal	-	25	-	-	-
Saudi Arabia	-	-	6	-	-
South Africa	-	-	-	-	80
Spain	-	170	-	-	-
Sweden	-	50	-	-	400
Switzerland	-	9	30	-	-
Taiwan	-	-	-	50	30
UK	20	-	-	-	250
USA	496	2822	1631	1541	3948
Unknown	35	-	-	50	-
TOTAL	727	7470	2556	1901	6909

Table 2. Reported countries of origin or export for exports of live *A. aurea* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. aurea</i>					
Argentina	250	6958	2375	1542	6892
Bolivia	421	512	187	104	-
Paraguay	56	-	-	-	-
Suriname	-	-	-	-	13
Countries without wild populations of <i>A. aurea</i>					
Australia	-	-	-	-	4*
Italy	-	9	-	-	-
Netherlands	-	-	-	5*	8*
Uruguay	-	-	-	250	-
Unknown	-	2	-	-	-

* captive-bred

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information was mainly extracted from Fuller et al. (1987).

Argentina Despite its rarity in the country it is considered a harmful species and therefore excluded from the general ban on trade in wildlife under Resolution No. 62 of 14 March 1986 (CITES Notification to the Parties No. 412, 28 November 1986).

Bolivia All exports of live wildlife have been banned since 1 May 1984.

Brazil All exports of live wildlife have been prohibited since 1967.

Paraguay All exports of wildlife have been prohibited since 1975.

Peru All exports of wildlife from the Selva region, to the east of the Andes, have been prohibited since 1973. Not included in a list of species allowed for export (CITES Notification to the Parties No. 389, 7 May 1986).

Suriname Hunting, collection and trade of all birds except certain designated species is illegal. *A. aurea* is not on the list of designated species.

CAPTIVE BREEDING The species is regularly traded as a pet, and has been bred in captivity since 1880; however current levels of breeding are not high (Low, 1986a).

GOLDEN-CAPPED PARAKEET
GOLDEN-CAPPED CONURE

Recommended list: 2
[Possible problem]

Aratinga auricapilla (Kuhl, 1820)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A rare species, endemic to south-eastern Brazil, whose range is now restricted as a result of forest destruction and whose populations are declining. Little is known of its ecology, but it appears to favour the margins of forests.

Minimum net imports reported to CITES amounted to 80 birds in 1981 and 788 in 1982. No trade was reported in 1983 or 1984 but 35 captive-bred birds were recorded in 1985. However, as most of the trade was reported to originate in countries without the species's range, mostly in Argentina, it is possible that nearly all was misidentified, perhaps *Aratinga aurea*, whose scientific and English names are similar to those of *A. auricapilla*. Banned from export from Brazil.

If all the trade has been misidentified, then *A. auricapilla* is in no danger; however, if not, as the species is endemic to Brazil, a country from which all wildlife exports are banned, the imports, chiefly to the USA and F.R. Germany, demonstrate inadequate implementation of CITES. There should be no trade in this species.

DISTRIBUTION Endemic to Brazil. Sick (1984) regards *auricapilla* as a subspecies of *A. solstitialis*. Forshaw distinguishes the following two subspecies:

A. a. auricapilla (Kuhl): Confined to northern and central Bahia, birds from the south of the state tend to be intermediate with *A. a. aurifrons* (Forshaw and Cooper, 1978).

A. a. aurifrons Spix: Occurs in south-eastern Brazil, from Minas Gerais and southern Goias south to interior Sao Paulo and Paraná, possibly to northern Rio Grande do Sul (Forshaw and Cooper, 1978); but Belton (1984) mentions that its occurrence in Rio Grande do Sul is very dubious. Ridgely (1982) pointed out that there were no recent records from the south of the range. Scott and Brooke (1985) did not report any sightings in Espirito Santo and Rio de Janeiro.

POPULATION Ridgely (1982) described it as very uncommon and local; most of its range reportedly no longer provides suitable habitat due to deforestation and it even seems to be absent from some of the remnant forest areas in its ranges. He said populations were small and the substantial decline over recent decades was continuing; he suggested that the species should be included in the next Red Data Book as "rare".

HABITAT AND ECOLOGY A forest species, favouring the edges and clearings, but having an absolute requirement for some remaining forest (Ridgely, 1981). Very little else is known of its ecology.

THREATS TO SURVIVAL The species seems to be particularly susceptible to loss of habitat, and recent population declines are attributable to the felling of some of the few remaining patches of forest in south-east Brazil (Ridgely, 1981). Thought to be potentially imperilled by trade (R.S. Ridgely, *in litt.*, 5 December 1985).

Aratinga auricapilla

INTERNATIONAL TRADE Minimum net imports reported to CITES amounted to 80 birds in 1981 and 788 in 1982. No trade was reported in 1983 or 1984, but 35 birds appeared in trade in 1985 (Table 1). However, as all the trade was reported to originate in countries without the species's range, mostly in Argentina, it is possible that nearly all was misidentified. Ridgely (1981) suggested that the majority of specimens of this species reported in trade were probably in fact *Aratinga aurea*, whose scientific and English names are similar to those of *A. auricapilla*. However, trade in this species has been recorded in sources other than the the CITES data. Nilsson (1985) listed US imports of 322 birds in 1981, 558 in 1982 and none in 1983 or 1984, compiled from US Ministry of Agriculture quarantine forms and Fish and Wildlife Service import forms. The 35 birds recorded in 1985 were reportedly captive-bred in South Africa. Substantial numbers of birds were reported in trade in 1981 as *Aratinga* spp. from Argentina; there is no indication of what species these were.

Table 1. Minimum net imports of live *A. auricapilla* reported to CITES.

	1981	1982	1983	1984	1985
Germany, F.R.	-	79	-	-	-
UK	-	1	-	-	-
USA	80	708	-	-	35
Total	80	788	0	0	35

Table 2. Reported countries of origin for exports of live *A. auricapilla* reported to CITES.

	1981	1982	1983	1984	1985
Argentina	80	750	-	-	-
Guyana	-	10	-	-	-
South Africa	-	3	-	-	35*
Unknown	-	26	-	-	-

* = captive-bred

CONSERVATION MEASURES Brazil is a Party to CITES. All exports of live wildlife have been prohibited since 1967 (Fuller et al., 1987).

CAPTIVE BREEDING The species is very rare in captivity even in Brazil (Ridgely, 1982), but great confusion has surrounded its true status, owing to confusion with other species over the English name. Although some doubt surrounded early breeding records, it is reportedly now breeding freely in a number of collections, especially in the USA (Low, 1986a).

ORANGE-FRONTED PARAKEET
ORANGE-FRONTED CONURE

Recommended list: 3*
[No problem]

Aratinga canicularis (Linné, 1758)

Order PSITTACIFORMES

Family PSITTACIDAE

* see last paragraph of summary

SUMMARY AND CONCLUSIONS Widely distributed on the Pacific slope of Central America from north-eastern Mexico south through Guatemala, Honduras, Nicaragua and El Salvador to north-western Costa Rica. Common and conspicuous almost everywhere it occurs. Nests almost exclusively in holes excavated in the arboreal mounds of the termite *Nasutitermes nigriceps*, and, in fact, the conure does not occur outside the range of this termite.

Minimum net imports reported to CITES fell from 2852 in 1981 to 104 in 1983, but rose again to 1197 in 1984 and 1125 in 1985. In 1981 and 1982 the majority of the birds originated in Mexico, but Honduras emerged as the major exporter in 1983, and supplied most of the wild-caught birds in 1984 and 1985. It seems that the ban imposed in Mexico in 1982 was effective in virtually stopping exports, but that the trade then shifted to Honduras. Protected in all range countries except Honduras, where quotas are in force, and El Salvador. A quota system for exports from Nicaragua has been proposed.

Such a common species is almost certainly capable of sustaining a substantial export trade, and the overall levels of exports are probably not excessive. However much of the trade now originates in Honduras, and clarification should be sought on the size of the quotas set and on the methods used to establish them. If the level of exports from El Salvador increases it will be necessary to determine whether the declining population there is threatened by trade. Furthermore, the large numbers proposed for export from Nicaragua may be of concern.

DISTRIBUTION Found widely from north-eastern Mexico south through Guatemala, Honduras, Nicaragua and El Salvador to north-western Costa Rica.

A. c. canicularis (Linné): Pacific coast of south-western Mexico south to western Costa Rica.

Costa Rica Found on the Pacific slope in the north of the country, particularly in the Guanacaste Cordillera and Peninsula Nicoya, but extending south across the central plateau to San Jose (Slud, 1964). Reported from Palo Verde and Santa Rosa (Stiles, 1983).

El Salvador Resident throughout the arid lower tropical zone, wandering higher after the breeding season, up to 1400 m on the Volcan de San Salvador (Dickey and van Rossem, 1938).

Guatemala Widespread in the Pacific slope lowlands and also in the arid zone of the upper Rio Montagua Valley on the Caribbean slope (Land, 1970).

Honduras Occurs mostly below 600 m in the arid lowlands of the Pacific slope, but extends up to 1500 m in the interior highlands and in the Comayagua Valley on the Caribbean drainage, but not elsewhere (Monroe, 1968).

Mexico Known only from the extreme south-west on the Pacific slope of Chiapas and the Isthmus of Tehuantepec (Blake, 1953).

Nicaragua A permanent resident of the thorn forest and scrub of the Pacific slope (T. Howell, *in litt.* to N.J. Collar, 29 April 1986).

Puerto Rico Introduced in small numbers in San Juan and near Las Croabas in Fajardo. May possibly be established but breeding has not been recorded (Raffaele, 1983).

USA Introduced, but not certainly established in southern Florida (American Ornithologists' Union, 1983).

***A. c. eburnirostrum* (Lesson):**

Mexico Restricted to the south-west from extreme eastern Michoacan south through Guerrero to Oaxaca (Forshaw and Cooper, 1978). In Oaxaca it occurs from sea level to 1360 m along the Pacific coast, and inland through the Tehuantepec River basin (Binford, 1968, see Forshaw and Cooper, 1978). Low (1972) questioned whether this was a distinct subspecies.

***A. c. clarae* Moore:**

Mexico Confined to the west from Sinaloa south to Colima and inland to western Durango and central Michoacan (Forshaw and Cooper, 1978). In Colima it occurs from the coastal plain at least as high as the oak woodland on the upper slopes of Medialuna (Schaldach, 1963).

POPULATION Ridgely (1981) describes it as very common and conspicuous almost everywhere it occurs; population stable.

Costa Rica Abundant in the Guanacaste Cordillera and Peninsula Nicoya, but less numerous elsewhere (Slud, 1964). Stiles (1983) listed it as an abundant permanent resident.

El Salvador The centre of abundance was said to be on the coastal plain, but they used to be very numerous almost everywhere in the arid lower tropical zone (Dickey and van Rossem, 1938, see Forshaw and Cooper, 1978). More recently it has been considered to occur in only 'fair' and 'declining' numbers (Thurber, 1978).

Guatemala Land (1970) reported it to be a common resident in the Pacific lowlands and in the arid Montagua Valley.

Honduras Said to be the most common parakeet in the arid lowlands of the Pacific slope. Abundant in the vicinity of San Lorenzo and Choluteca (Monroe, 1968). The populations of this species in Honduras have been reported as probably larger than those of any other psittacine (Honduras CITES MA, 1985).

Mexico Common throughout most of its range in Mexico: quite abundant at Labrados, Sinaloa; common, though irregularly distributed, in Nayarit and southern Sinaloa; abundant in tropical forests south of Autlan, Jalisco; very common in Oaxaca (Forshaw and Cooper, 1978). In Colima they are one of the most abundant resident birds of the tropical areas, roaming the countryside in flocks of 50 to 60 (Schaldach, 1963). On the Monserrate plateau, Chiapas, they were said to be common, though not as numerous as *Aratinga holochlora* (Edwards and Lea, 1955, see Forshaw and Cooper, 1978). Described by Blake (1953) as locally abundant in Mexico, and by Edwards (1972) as common in open country.

Aratinga canicularis

Nicaragua Listed as common (T. Howell, *in litt.* to N.J. Collar, 29 April 1986). In recent years estimates have been made of the populations of three areas in the Pacific region:— Cosiguina (42.95 km²): 6374 pairs; Momotombo (38.67 km²): 9618; Zapatera Island: 300 (Morales, 1987).

HABITAT AND ECOLOGY. Inhabits dry woodland, forest edge and arid scrub (Peterson and Chalif, 1973) and even artificial savannah, provided there are a few trees remaining. Primarily a lowland species, but ranges seasonally into the hills up to 1200 m, rarely higher (Ridgely, 1981). Feeds on fruits, particularly wild figs, seeds, nuts, berries, blossoms and possibly insects. Breeding occurs from mid-January to May, being earlier in the north of the range. The usual clutch size is three to five eggs. Nests almost exclusively in holes excavated in the arboreal mounds of the termite *Nasutitermes nigriceps*, although it has been claimed that occasionally holes in trees may be used (Forshaw and Cooper, 1978). Hardy (1963) pointed out that distribution closely approximated to the northern part of range of these termites, and, in fact, the conure does not occur outside the range of *Nasutitermes nigriceps* (Ridgely, 1981).

THREATS TO SURVIVAL The species is reported to adapt well to open grazing land, after the clearance of natural scrub, although it is probably most numerous in less-disturbed areas (Ridgely, 1981). In Mexico it is the psittacine which is most often sold in local markets as "talking birds". At times the flocks do an enormous amount of damage to young corn and ripening bananas (Schaldach, 1963). There was no demand in Honduras for the export of this species (Honduras CITES MA, 1985).

INTERNATIONAL TRADE Minimum net imports reported to CITES fell from 2852 in 1981 to 104 in 1983, but rose again to 1197 in 1984 and 1125 in 1985. The main importing countries were the USA and F.R. Germany (Table 1). In 1981 and 1982 the majority of the birds originated in Mexico, but Honduras emerged as the major exporter in 1983, and supplied virtually all of the wild-caught birds in 1984. In 1985 moderate numbers were exported by both El Salvador and Guatemala (Table 2). It seems that the ban imposed in Mexico in 1982 was effective in virtually stopping exports, but that the trade then shifted to Honduras, where export quotas are in force.

CONSERVATION MEASURES All of the range states except Mexico are Parties to CITES. The following information was mainly extracted from Fuller *et al.* (1987).

Costa Rica All commercial hunting, trade and export of non-marine wildlife has been prohibited since 1970, except for injurious species or captive-bred animals.

El Salvador There are as yet no laws protecting parrots in the country.

Guatemala All capture and export was temporarily suspended on 24 March 1986 (CITES Notification to the Parties No. 386, 7 May 1986).

Honduras The export of most wildlife is prohibited, except for certain species, including *Aratinga* spp., for which quotas are set every three months. There is no indication of what the quotas are, but they are said to have been substantial in recent years.

Mexico Not a Party to CITES. Commercial export and import of most wildlife has been prohibited since 20 September 1982.

Aratinga canicularis

Nicaragua Commercial hunting, export and import of most wildlife has been prohibited since 1977. Export of parrots as personal pets may be permitted. It has been proposed to allow capture and export of some parrot species from 1988 onwards, at least in some areas. The proposed annual quota for this species from the Cosiguina area is 1288 (10% of the 1983 estimate of the population) (Morales, 1987).

CAPTIVE BREEDING This species has long been a highly rated pet in the USA, though few are kept in Europe. Breeding successes are scarce, particularly outside the USA (Low, 1986a).

Table 1. Minimum net imports of live *A. canicularis* reported to CITES

	1981	1982	1983	1984	1985
Bahamas	-	-	-	5	-
Canada	-	-	-	50	-
Costa Rica	-	1	-	1	1
Cuba	-	2	-	-	-
France	2	4	2	-	-
Germany, F.R.	140	-	1	-	14
Italy	-	1	-	2	-
Panama	1	-	-	-	-
Portugal	-	-	-	-	3
Singapore	-	-	-	-	10
Spain	2	1	-	-	-
USA	2706	534	102	1135	1094
USSR	-	-	-	4	3
Venezuela	1	-	-	-	-
TOTAL	2852	544	104	1197	1125

Table 2. Reported countries of origin or export for exports of live *A. canicularis* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. canicularis</i>					
El Salvador	-	-	1	2*	137
Guatemala	7	11	7	1	156
Honduras	-	15	92	1184	839
Mexico	2841	512	1	2	-
Nicaragua	4	6	2	8	4
Unknown	-	1	1	-	-

* = captive-bred

GREEN PARAKEET
GREEN CONURE

Recommended list: 3
[No problem]

Aratinga holochlora (Sclater, 1859)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Found from Mexico to Nicaragua including Guatemala, El Salvador and Honduras. Five subspecies have been recognised. *A. h. strenua* and *A. h. brewsteri* are decidedly uncommon, but may always have been so, and *A. h. brevipes*, which is restricted to Socorro Island, off the coast of Mexico, has been described as not particularly common; *A. h. holochlora* and *A. h. rubritorquis* are relatively abundant. All inhabit forest and scrub areas up to moderate altitudes, but avoid the humid forests. Some crop raiding has been reported. At least two of the subspecies have suffered from habitat destruction.

Minimum net imports reported to CITES fell from 384 in 1982 to 27 in 1984 but rose again to 393 in 1985. There was no trade reported in 1981. The majority of the birds originated in Honduras. Protected in Guatemala and Mexico; subject to export quotas in Honduras.

The levels of trade in this species are not high. Clarification is needed on the size and method of calculation of the Honduran export quotas.

DISTRIBUTION Found from Mexico to Nicaragua including Guatemala, El Salvador and Honduras. Five subspecies have been recognised. *A. h. strenua* has been regarded as specifically distinct (Bangs and Peters, 1928), but Forshaw and Cooper (1978) disputed this. They suggested that *A. h. rubritorquis* may represent a separate species.

A. h. holochlora (Sclater)

Mexico On the Gulf slope, from Nueva Leon south through Tamaulipas, Vera Cruz and Oaxaca to Chiapas (Edwards, 1972; Forshaw and Cooper, 1978). Recorded from the Rio Corona, Tamaulipas (Gehlbach et al., 1976), and the Gomez Farias region (Sutton and Pettingill, 1942).

A. h. brevipes (Lawrence)

Mexico Found only on Socorro Island, one of the Revilla Gigedo Islands, 500 km off the west coast of Mexico. Recorded in heavily wooded areas above 500 m on Cerro Evermann (Jehl and Parkes, 1982).

A. h. brewsteri Nelson

Mexico Sonora, Sinaloa and western Chihuahua, chiefly between 4000 and 6000 ft (1200-1830 m) altitude (Blake, 1953). Van Rossem (1945) remarked that there were only eight specimens known from Sonora and that the centre of distribution lay elsewhere.

A. h. strenua (Ridgeway): Pacific coast of Mexico south to Nicaragua (Low, 1972).

Aratinga holochlora

El Salvador Recorded widely in the arid lower tropical zone (Dickey and van Rossem, 1938).

Guatemala Found widely in the lowlands on the Pacific slope and in the arid interior on the Gulf slope, and ranges locally up into the subtropical zone (Land, 1970; Ridgely, 1982). Possibly sympatric with *A. h. rubritorquis*, suggesting that the latter is specifically distinct (Forshaw and Cooper, 1978).

Honduras Recorded from a single specimen taken at San Lorenzo in 1932; probably confined to the Pacific lowlands (Monroe, 1968).

Mexico Found in the Pacific lowlands of Oaxaca and Chiapas (Blake, 1953).

Nicaragua Distributed along the Pacific volcanic chain, in the lowlands and foothills to about 1200m, from the Cosigüina Volcano in Chinandega and the Momotombo Volcano in León to Volcan Masaya National Park in Granada (Ryan, 1978; Morales, 1987; Ridgely, 1982).

***A. h. rubritorquis* (Sclater):** Eastern Guatemala, El Salvador, Honduras and northern Nicaragua.

El Salvador Apparently known from only specimen taken in the late 19th century in the highlands at Volcan San Miguel (Dickey and van Rossem, 1938).

Guatemala Found in the highlands of eastern Guatemala near the Honduran border (Land, 1970).

Honduras Recorded from a variety of localities in the highlands, mainly above 900 m (Monroe, 1968).

Nicaragua Found in the subtropical zone of northern Nicaragua between about 1500 and 2500 m (Forshaw and Cooper, 1978; Ridgely, 1982).

POPULATION Some of the subspecies are still numerous and conspicuous while others are little known and decidedly uncommon. *A. h. strenua* is the least numerous, though it may always have been rare, and is known from relatively few specimens except in El Salvador where it may still be common; it has probably suffered from habitat destruction, and its status requires further investigation. *A. h. brewsteri* is also little known, and probably exists in only small numbers in inaccessible, precipitous terrain. *A. h. holochlora* remains fairly common though its numbers may have declined owing to habitat destruction over much of its range. *A. h. rubritorquis* is still common, though seasonally nomadic (Ridgely, 1981).

El Salvador Dickey and van Rossem (1938) claimed that the species was a common resident throughout the arid lower tropical zone.

Guatemala Said to be fairly common in the drier parts of the Pacific subtropics and lowlands, arid interior and highlands (Land, 1970).

Honduras *A. h. rubritorquis* was said to be fairly common to common in the interior highlands, above 900 m. *A. h. strenua*, known from a single specimen, was thought to be probably uncommon (Monroe, 1968). The species as a whole, in common with most of the aratingas, has a good population, which is not under much pressure (Honduras CITES MA, 1985).

Aratinga holochlora

Mexico The species was said to be decidedly abundant, particularly in the lowlands and at medium altitudes (Blake, 1953). Edwards (1972) described the species as common. Sutton and Pettingill (1942) reported that it was seen daily but in varying abundance in south-western Tamaulipas. *A.h. brevipes* was said to be not particularly common (Jehl and Parkes, 1982). The numbers of *A.h. brewsteri* were thought to be relatively small, but stable and *A.h. strenua* was thought to have always been uncommon (Ridgely, 1982).

Nicaragua Both *rubritorquis* and *strenua* are apparently local and uncommon (Ridgely, 1982). In recent years an estimate has been made of the population of the Cosigüina area (42.95 km²): 8590 pairs of *A.h. strenua* (Morales, 1987).

HABITAT AND ECOLOGY All subspecies avoid humid lowland forest, favouring deciduous and gallery woodland, scrub, forest-edge and clearings. *A. h. rubritorquis* is found almost exclusively in highland pine forest and occasionally ranges into cloud forest (Monroe, 1968). *A. h. strenua* occurs mostly in the lowlands, but the other subspecies are found primarily in the foothills and lower highland areas, especially between 500 and 2000 m, though *A. h. holochlora* also extends into the lowlands (Ridgely, 1981). *A. h. brevipes* inhabits heavily wooded areas (Jehl and Parkes, 1982). These parrots usually travel around in noisy flocks, particularly in the non-breeding season, feeding on seeds, fruits, nuts, berries and vegetable matter, procured in the tree tops or amongst the outer branches of bushes. They also raid corn crops. Nesting habits are not well known. Adults have been seen entering holes in trees and excavating holes in termite mounds. They apparently also nest locally on cliffs and ledges (Ridgely, 1982). Breeding probably takes place in February to March in El Salvador (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Habitat destruction is thought to have resulted in a decline of *A. h. strenua*, much of whose range has been given over to intensive agriculture, and possibly *A. h. holochlora*; the latter may also have been adversely affected by the export trade (Ridgely, 1981).

INTERNATIONAL TRADE Minimum net imports reported to CITES fell from 384 in 1982 to 27 in 1984 but rose again to 393 in 1985. There was no reported trade in 1981. The main importing countries were the USA and the Netherlands (Table 1). The majority of the birds originated in Honduras. In 1982, 25 birds were reported to have originated in Peru; it is probable that these represent another species of *Aratinga* (Table 2). According to Morales (1987) exports from Nicaragua in 1986 increased to 233.

CONSERVATION MEASURES All of the range states except Mexico are Parties to CITES. The following information was extracted from Fuller et al. (1987).

El Salvador There are as yet no laws protecting parrots in the country.

Guatemala All capture and export was temporarily suspended on 24 March 1986 (CITES Notification to the Parties No. 386, 7 May 1986).

Honduras The export of most wildlife is prohibited, except for certain species, including *Aratinga* spp., for which quotas are set every three months. There is no indication of what the quotas are, but they are said to have been substantial in recent years.

Mexico Not a Party to CITES. Commercial export and import of most wildlife has been prohibited since 20 September 1982.

Aratinga holochlora

Nicaragua Commercial hunting, export and import of most wildlife has been prohibited since 1977. Export of parrots as personal pets may be permitted. It has been proposed to allow capture and export of some parrot species from 1988 onwards, at least in some areas. The proposed annual quota for this species from the Cosigüina area is 800 (4.7% of the 1983 estimate of the population) (Morales, 1987).

CAPTIVE BREEDING *A. h. holochlora* has occasionally been exported, but is not amongst the best known conures in captivity. It has been bred. *A. h. rubritorquis* is very rare in aviculture, but has bred at least once (Low, 1986a).

Table 1. Minimum net imports of live *A. holochlora* reported to CITES

	1982	1983	1984	1985
Canada	-	-	-	2
Cuba	-	-	6	-
Italy	-	-	2	-
Netherlands	25	-	-	-
Netherlands Antilles	-	1	-	-
South Africa	-	-	4*	-
Spain	1	-	-	-
USA	358	251	15	391
TOTAL	384	252	27	393

Table 2. Reported countries of origin or export for exports of live *A. holochlora* reported to CITES.

	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. holochlora</i>				
Guatemala	-	1	-	42
Honduras	353	245	10	350
Mexico	4	5	-	-
Nicaragua	2	-	10	2
Countries without wild populations of <i>A. holochlora</i>				
Costa Rica	-	-	-	1
Dominican Republic	-	1	-	-
Haiti	-	-	3	-
Netherlands	-	-	4*	-
Peru	25	-	-	-

* = captive-bred

MITRED PARAKEET
MITRED CONURE

Recommended list: 2
[Possible problem]

Aratinga mitrata (Tschudi, 1844)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A relatively numerous parakeet, occurring at moderate altitudes on the east slope of the Andes, from central and southern Peru south through eastern Bolivia to north-western Argentina. Particularly associated with dry intermontane valleys, and rarely descends to low altitudes. Often associates in flocks of over 100 in the non-breeding season, and may occasionally attack ripening crops. The species is probably at least locally numerous in Peru and Bolivia, but reports for Argentina vary from "very scarce" to "fairly common".

Minimum net trade increased from 9045 in 1981 to 12 547 in 1983, then fell sharply to 3973 in 1984 but increased to 19 993 in 1985. The origin of nearly all the birds prior to 1983 was reported as Bolivia, and the sharp decline in trade in 1984 may be attributable to the export ban imposed on 1 May 1984. 570 were reported as exports from Argentina in 1984, and nearly all of the birds in trade in 1985 were reportedly from this source. Exports are prohibited from all of the range states.

This species is still numerous in parts of its range, and could probably support an export trade. However it is not possible to say whether current levels of trade are sustainable, as they increased steadily up to 1983. The ban on exports from Bolivia appeared to curtail the trade dramatically in 1984, but the trade switched to Argentina, where the species may be scarcer. It is essential that the population status in Argentina be clarified in order that the potential impact of resuming the large export trade can be assessed.

DISTRIBUTION On the east slope of the Andes, from central and southern Peru south through eastern Bolivia to north-western Argentina. Ridgely (1981) remarks that *A. mitrata* is closely related to *Aratinga wagleri* and could prove to be conspecific, although the two are sympatric in some parts of the range. Two subspecies of *A. mitrata* have been recognised:

A. m. mitrata (Tschudi): central Peru down through eastern Bolivia to north-western Argentina.

Argentina Distributed from the north-west of the country to La Rioja and western Cordoba (Forshaw and Cooper, 1978). The record from Cordoba is reduced to the status of a footnote by Nores et al. (1983).

Bolivia Recorded from Pocona and Aiquile in Cochabamba (Remsen et al., 1986), and also from Tarija, Potosi and western Santa Cruz (Nores and Yzurieta, 1984b). Does not range onto the altiplano or adjoining lowlands (Ridgely, 1982).

Peru Ridgely (1982) stated that it had been recorded locally from the eastern slope (mostly) of the Andes from central Peru (Huanaco) south to the Bolivian border. Recorded from the Pampas River valley, south-east of Ayacucho (Morrison, 1948a).

A. m. alticola Chapman

Peru Apparently limited to central Peru in the region of Cuzco up to an altitude of 3400 m (Forshaw and Cooper, 1978). Olrog (1968) treats this as a separate species.

POPULATION Ridgely (1982) describes the species as locally common; sometimes it is found in flocks of 50-100 birds.

Argentina Said to have been abundant in Tucuman in 1936, and large flocks were reported in the Lerma Valley in 1968 (see Forshaw and Cooper, 1978). Ridgely (1982) indicated that it was fairly common, with no evidence of an overall decline, but it was described in 1986 as "very scarce and in a pre-critical situation" (Argentina CITES MA, 1986).

Bolivia Nores and Yzurieta (1984b) reported flocks of 100 and 150 birds in Santa Cruz and Ridgely (1982) described it as seasonally numerous in the intermontane valleys of eastern Cochabamba and western Santa Cruz; somewhat smaller numbers have been found elsewhere.

Peru Parker et al. (1982) said it was locally common in appropriate habitats in Peru, and O'Neill (1981) implied that it was abundant in the dry intermontane valleys. Morrison (1948a) reported that it was common in 1939 in the Pampas Valley, though was usually only seen in twos and threes. Ridgely (1982) stated that there are no recent reports of *alticola* and that it is possible that this form has declined in recent years.

HABITAT AND ECOLOGY Usually found in arid montane slopes and valleys, feeds mostly in woodland or small patches of forest, mainly between 1000 m and 2500 m, rarely if ever descending to lower altitudes (Ridgely, 1981), although Nores and Yzurieta (1984b) provide records from less than 500 m. Parker et al. (1982) and Olrog (1984) refer to the species occurring in humid temperate forests. Often associates in flocks of over 100 in the non-breeding season, when they may raid grain crops.

A. mitrata feeds mainly in forest on fruits and berries, but also ripening corn in the temperate zone of central Peru. Has been recorded nesting in a hollow in a tree in Argentina in December (Forshaw and Cooper, 1978; Ridgely, 1981).

THREATS TO SURVIVAL In Peru the species is occasionally an agricultural pest, and local persecution may occur, though this is not severe (O'Neill, 1981). It does not appear to be seriously threatened by habitat alteration, and is often numerous in areas long used for agriculture (Ridgely, 1981).

INTERNATIONAL TRADE CITES Annual Reports reveal that minimum net imports increased from 9045 in 1981 to 12 547 in 1983, then fell sharply to 3973 in 1984 but increased to 19 993 in 1985 (Table 1). The origin of nearly all the birds prior to 1983 was reported as Bolivia (Table 2), and the sharp decline in trade in 1984 may be attributable to the export ban imposed in 1984 (see below). In 1983 and 1984, Argentina emerged as an increasingly important exporter, possibly as a result of the restriction in the supply from Bolivia and in 1985 almost all of the birds in trade were from this source. The 250 *A. mitrata* reported as imports to Italy from Uruguay in 1984 may represent a misidentification. A total of 21 176 *Aratinga* spp. were reported as having originated in Argentina in 1981. There is no indication of what species they were. Export figures supplied by the Santa Cruz regional wildlife management authority indicate that a total of 28 876 *A. mitrata* were exported from Bolivia from 1980 to 1983.

*Aratinga mitrata*Table 1. Minimum net imports of live *A. mitrata* reported to CITES

	1981	1982	1983	1984	1985
Canada	165	395	532	221	40
France	-	-	-	-	230
Germany, F.R.	60	494	480	101	785
Greece	-	-	-	-	20
Hong Kong	-	-	-	-	180
Hungary	-	-	-	-	50
Italy	-	-	100	251	80
Poland	-	-	-	-	10
Saudi Arabia	-	-	-	-	80
South Africa	-	-	20	-	80
Spain	-	-	-	-	150
Sweden	-	-	40	100	100
Switzerland	-	10	-	-	-
United Kingdom	-	50	-	-	150
United States	8420	9460	11375	3300	18038
Unknown	400	-	-	-	-
TOTAL	9045	10409	12547	3973	19993

Table 2. Reported countries of origin or export for exports of live *A. mitrata* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. mitrata</i>					
Argentina	-	-	40	570	19985
Bolivia	9045	10405	12507	3143	-
Peru	-	-	-	-	1
Countries without wild populations of <i>A. mitrata</i>					
Ecuador	-	4	-	-	-
Honduras	-	-	-	10	-
USA	-	-	10	-	-
Uruguay	-	-	-	250	-
Venezuela	-	-	-	-	-
Unknown	-	-	-	1	-

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information is from Fuller et al. (1987) unless otherwise indicated.

Argentina Included in a general ban on trade in wildlife under Resolution No. 62 of 14 March 1986 (CITES Notification to the Parties No. 412, 28 November 1986).

Bolivia Not specifically referred to in Bolivian legislation. All exports of live wildlife have been prohibited since 1 May 1984.

Aratinga mitrata

Peru Resolucion Directorial No. 014-83-DGFF, passed in 1983, established quotas for the export of various psittacines from the coastal and Sierra regions, including *A. mitrata*. However by 1986 it had been removed from the list of exportable species (CITES Notification to the Parties No. 389, 7 May 1986).

CAPTIVE BREEDING The Mitred Conure is rather uncommon in captivity (Ridgely, 1981). Bred annually between 1976 and 1982 by an aviculturalist in Switzerland (Low, 1986a).

OLIVE-THROATED PARAKEET
OLIVE-THROATED CONURE

Recommended list: 3
[No problem]

Aratinga nana (Vigors, 1830)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Found in Jamaica and on the Caribbean side of Central America from mid-eastern Mexico south to Costa Rica, including Guatemala, Belize, Honduras, and Nicaragua. Vagrants have been recorded in Panama. Several taxonomic authorities regard the Jamaican race as a separate species (*A. nana*) from that on the mainland (*A. astec*). Common or fairly common throughout its normal range; especially numerous in Yucatan. A lowland species, occurring in a variety of habitat types, but especially forest edges and clearings.

Minimum net imports reported to CITES fell from 505 in 1981 to 185 in 1985. Of the countries having wild populations of *A. nana*, the majority of exports originated in Guatemala in 1981. A total of up to 550 *A. nana* were reported to have originated in Argentina. These almost certainly represent misidentification of another species, possibly *Nandayus nenday*. Protected in Mexico, Belize, Costa Rica and Guatemala. Regarded as a pest in Jamaica.

Even if the exports reported from Argentina were indeed *A. nana*, the level of trade cannot be considered excessive for such a common species.

DISTRIBUTION Found in Jamaica and on the Caribbean side of central America from mid-eastern Mexico south to extreme western Panama. Three subspecies are recognised here, but *A. n. astec* is often treated as a separate species (e.g. Ridgely, 1981). Forshaw and Cooper (1978) treat it as a subspecies and synonymise *A. n. melloni* Twomey with *A. n. nana* following Parkes (1976).

A. n. nana (Vigors): Confined to Jamaica, where it is widespread, occurring chiefly in the lowlands and lower mountain slopes. It is rare or absent from the higher mountains, and does not occur in the Blue Mountains and John Crow Mountains (Forshaw and Cooper, 1978).

A. n. astec (Souancé): (including *A. n. melloni* Twomey). Found in Mexico south through the eastern part of Guatemala, Honduras, Nicaragua and Costa Rica to extreme western Panama.

Belize Widely distributed, having the greatest habitat range of all the parrots in the country (Russell, 1964).

Costa Rica Virtually confined to the tropical belt in the Caribbean lowlands, though recorded above this at Cariblanco de Sarapique (Slud, 1964). Present in the vicinity of La Selva (Stiles, 1983).

Guatemala Resident in the Caribbean lowlands and the Peten up to 750 m (Land, 1970).

Honduras Found in the Caribbean lowlands below 1000 m, including the Comayagua Valley (Monroe, 1968). Recorded from Lancetilla, Comayagua, Omoa, San Pedro, Truxillo and Segovia River and Santa Ana (Stone, 1932).

Mexico Found in the humid Caribbean lowlands from Vera Cruz and northern Oaxaca southwards (Blake, 1953), including northern Chiapas and through the Yucatan Peninsula (Peterson and Chalif, 1973) to Quintana Roo (Edwards, 1972).

Nicaragua Listed as a permanent resident of the Caribbean slope of the country (T. Howell, *in litt.* to N.J. Collar, 29 April 1986). Recorded from El Eden and Bluefields (Huber, 1933), Wany and Waunta Lagoons and in the pine area of Laguna de Perlas (Morales, 1987).

Panama Known only from five specimens from western Bocas del Toro (Ridgely, 1976). Four specimens were taken from April to October in 1927, suggesting that they were wanderers from the north (Wetmore, 1968), and a single bird was obtained in 1963 (Ridgely, 1976).

A. n. vicinialis (Bangs and Penard): Restricted to north-eastern Mexico, from central Tamaulipas to north-eastern Vera Cruz (Blake, 1953). Recorded from the Gomez Farias region in Tamaulipas (Sutton and Pettingill, 1942). Listed as a non-breeding visitor to the floodplain of the Rio Corona, Tamaulipas (Gehlbach *et al.*, 1976).

POPULATION Ridgely (1981) reported that the mainland subspecies (*A. n. astec* and *A. n. vicinialis*) were apparently common throughout most of their range, the populations being stable.

Belize Moderately common and very widespread, though not seen as frequently or in as large numbers as several other parrots (Russell, 1964).

Costa Rica Said to be met more or less regularly but not frequently, except locally (Slud, 1964). Ridgely (1981) found the species to be fairly common. Listed as common in the vicinity of La Selva (Stiles, 1983).

Guatemala Common in the Caribbean lowlands and fairly common in the Peten (Land, 1970). Uncommon at Tikal (Smithe, 1966, see Forshaw and Cooper, 1978).

Honduras Said to be fairly common to common (Monroe, 1968). Ridgely (1982) found it to be the most numerous parrot in the Olancho forest area in 1979.

Jamaica There have been no surveys of this species, but it is thought to be common, though seasonal in occurrence in different areas. The populations are thought to be stable, and not under threat (Jamaica Ministry of Agriculture, *in litt.*, 4 February 1986). Common in many parts of the island, chiefly in the lowlands and lower mountain slopes but rare at higher altitudes (Bond, 1956).

Mexico Common to abundant in the tropical zone of Veracruz (Loetscher, 1941, see Forshaw and Cooper, 1978). The most common parrot on the Yucatan Peninsula (Paynter, 1955, see Forshaw and Cooper, 1978). Described by Edwards (1972) as common. Apparently less numerous northward, particularly in Tamaulipas where extensive habitat destruction may have caused a decline (Ridgely, 1982).

Nicaragua Said to be very common at El Eden and also at Bluefields (Huber, 1933). Listed as common along the edge of humid lowland forest, and fairly common in lowland pine savannah (T. Howell, *in litt.* to N.J. Collar, 29 April 1986).

Panama Said to be rare in western Bocas del Toro, possibly only a vagrant from further north. Only five birds have ever been recorded (Ridgely, 1976).

Aratinga nana

HABITAT AND ECOLOGY. Found in a variety of habitats from the edge and canopy of humid forest to deciduous forest and scrub. Rarely found in deep tropical forest (Russell, 1964) or at altitudes above 800 m (Ridgely, 1981). Usually seen in pairs or flocks of up to 50, but larger numbers will congregate to feed on ripening fruits. They feed on fruits, berries, blossoms and probably vegetable matter, generally procured in trees and bushes. They often cause considerable damage to corn crops, and, in Jamaica, are known to feed on guava (Forshaw and Cooper, 1978) and the flowers of *Cannabis sativa* (Jamaica Ministry of Agriculture, *in litt.*, 4 February 1986). Breeding is thought to occur in April and May, or possibly earlier on Jamaica. A nest has been recorded in a cavity in a termites' mound.

THREATS TO SURVIVAL Land (1970) reported that in Guatemala this species occurred in plantations and farmland, probably even profiting from the activities of man. However it often fed in cornfields, which did not endear it to the natives. In Costa Rica it is said to occur in partially deforested areas (Slud, 1964). In Jamaica, the species is officially classified as a pest, and it is known to eat the flowers of *Cannabis sativa*. It is therefore occasionally killed by farmers. It is seldom kept as a pet. Amazons are much preferred to parakeets, but following a clampdown on the sale of parrots, parakeets are often kept on show by traders. Parakeets have been known to be used to obtain export documents and then substituted by amazons before the export took place (Jamaica Ministry of Agriculture, *in litt.*, 4 February 1986).

INTERNATIONAL TRADE Minimum net imports reported to CITES fell from 505 in 1981 to 185 in 1985. The main importing countries were the USA, F.R. Germany, German D.R. and Canada (Table 1). Of the countries having wild populations of *A. nana*, the majority of exports originated in Guatemala in 1981, with lesser amounts from Honduras and Jamaica in the subsequent years. A total of up to 550 *A. nana* were reported to have originated in Argentina: the USA reported an import from Argentina of 400 birds in 1983 and a re-export of 150 of birds originating in Argentina in 1984 (Table 2). These almost certainly represent misidentification of another species, possibly *Nandayus nenday*.

CONSERVATION MEASURES All of the range states except Mexico are Parties to CITES. The following information was extracted from Fuller *et al.* (1987).

Belize A seven-year moratorium on commercial trade in wildlife was imposed in 1981. All except six species of birds are protected from hunting.

Costa Rica All commercial hunting, trade and export of non-marine wildlife has been prohibited since 1970, except for injurious species or captive-bred animals.

Guatemala All capture and export was temporarily suspended on 24 March 1986 (CITES Notification to the Parties No. 386, 7 May 1986).

Honduras The export of most wildlife is prohibited, except for certain species, including *Aratinga* spp., for which quotas are set every three months. There is no indication of what the quotas are, but they are said to have been substantial in recent years.

Jamaica The species is classified as a pest and can be hunted at any time of year; however the Natural Resources Conservation Division, Ministry of Agriculture, intends to reclassify it as protected as soon as possible (Jamaica Ministry of Agriculture, *in litt.*, 4 February 1986).

Aratinga nana

Mexico Not a Party to CITES. Commercial export and import of most wildlife has been prohibited since 20 September 1982.

Nicaragua Commercial hunting, export and import of most wildlife has been prohibited since 1977. Export of parrots as personal pets may be permitted.

Panama *A. nana* is not protected in Panama. The sale of meat of all wild animals is prohibited.

CAPTIVE BREEDING This species is rather rare in captivity (Ridgely, 1981), but has been bred (Low, 1986a).

Table 1. Minimum net imports of live *A. nana* reported to CITES

	1981	1982	1983	1984	1985
Austria	-	3	-	-	-
Canada	-	-	-	150	-
German D.R.	200	-	-	-	-
Germany, F.R.	300	-	80	-	-
France	1	-	1	-	-
Netherlands	-	-	-	-	1
Singapore	-	-	-	-	26
Spain	-	1	-	-	-
USA	4	89	415	95	158
TOTAL	505	93	496	245	185

Table 2. Reported countries of origin or export for exports of live *A. nana* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. nana</i>					
Guatemala	505	6	1	-	158
Honduras	-	87	-	94	26
Jamaica	-	-	95	1	1
Countries without wild populations of <i>A. nana</i>					
Argentina	-	-	400	150	

SUN PARAKEET
SUN CONURE

Recommended list: 2
[Possible problem]

Aratinga solstitialis (Linné, 1758)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Found only locally in the southern parts of Guyana, Suriname and French Guiana, north-eastern Brazil and south-eastern Venezuela (where now possibly extinct). The total wild population is probably not large, and is restricted geographically and ecologically. It occurs chiefly in natural savannahs and also in varzea forest along the Amazon.

Minimum net imports reported to CITES fell from a peak of 1134 in 1982 to 91 in 1984 but increased to 245 in 1985. Virtually all of the wild-caught birds exported originated in Guyana. Protected in all range countries except Guyana, where export quotas are in force, and French Guiana.

The exports from Guyana evidently increased markedly between 1978 and 1982, but the fact that they appear to have fallen dramatically since then suggests either that lower export quotas are being enforced or that the supply is becoming scarcer. The peak rates of exploitation may have been excessive for such a locally distributed species, but they have since declined. It is possible that one influence on the number of wild-caught specimens in trade may be the increasing production from captive breeding and consequent decrease in retail prices and the resulting incentive for importation. However the most recent Guyanese export quota will still allow a substantial trade in wild-caught birds.

DISTRIBUTION Found only locally in the southern parts of Guyana, Suriname and French Guiana, north-eastern Brazil and possibly south-eastern Venezuela. Sometimes considered conspecific with *Aratinga jandaya* and *Aratinga auricapilla* (e.g. Sick, 1984).

Brazil Distribution extends from the campos of northern Roraima southwards, and locally along both banks of the Amazon from around Manaus, in eastern Amazonas, to western Para. The only recent records from the south bank of the Amazon and in Amazonas are from the Rio Canuma region, near the mouth of the Rio Madiera (Ridgely, 1982). Probably also occurs in north-western Amapa (Forshaw and Cooper, 1978).

French Guiana Recorded from "Cayenne" (Berlepsch, 1908).

Guyana Recorded in the south, from the Mahu and Pomeroon Rivers, Pacaraima Mountains, Quonga, Annai and Waranambo. Records from Bartica seem doubtful (Snyder, 1966). Ridgely (1982) stated that it was locally distributed in the savannas of interior western Guyana.

Suriname Found in the southern savannas, and unknown in the northern part of the country (Haverschmidt, 1968). Very little is known about the species in Suriname. It has been recorded from the Raleigh Falls National Park and the Sipaliwini Savanna (Donahue and Pierson, 1982).

Venezuela Only recorded from Cerro Roraima in south-east Bolivar in 1848 (Forshaw and Cooper, 1978; Meyer de Schauensee and Phelps, 1978).

POPULATION Ridgely (1981) considered it was probably not uncommon where it occurred, but was restricted both geographically and ecologically. He thought that the total wild population might not be large but was probably stable, owing to the inaccessibility of its range.

Brazil Little information, but probably common where it occurs (Ridgely, 1979).

French Guiana No information.

Guyana Locally distributed and not very common in the country (Forshaw and Cooper, 1978). Ridgely (1982) thought that recent exports indicated that substantial numbers might be found in the south-western part of the country.

Suriname Said to be common on the Paroe savanna (Haverschmidt, 1968) and the Sipaliwini savanna (Schulz, J.P., cited in Ridgely, 1982). Very little is known about the species in Suriname (Donahue and Pierson, 1982).

Venezuela There is only one record from the country, from 1848 (Forshaw and Cooper, 1978).

HABITAT AND ECOLOGY Principally occurs on natural savannas; in Brazil it has been found in seasonally flooded low varzea forest along the banks of the Amazon River (Ridgely, 1981). It is generally seen in flocks, which often congregate to feed in fruiting trees. Nesting has been recorded in a hole in a Moriche Palm in February in Suriname (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL The two known natural habitats have undergone little or no modification by man. The species is highly desired as an avicultural item, but it is not known what effect, if any, this has had on wild populations (Ridgely, 1981). Listed as being potentially imperilled by trade (R.S. Ridgely, *in litt.*, 5 December 1985).

INTERNATIONAL TRADE Niles (1981) reported that 223 *A. solstitialis* were exported from Guyana in 1979 and none in 1978. Minimum net imports reported to CITES fell from a peak of 1134 in 1982 to 91 in 1984 but increased to 245 in 1985. The main importing countries were the USA and the UK (Table 1). Virtually all of the wild-caught birds exported originated in Guyana (Table 2). The exports from Guyana evidently increased markedly between 1978 and 1982, but the fact that they appear to have fallen dramatically since then suggests either that lower export quotas were being enforced or that the supply is becoming scarcer. The export quota for 1987/88 (see below) is far in excess of the numbers exported in recent years. Substantial numbers of captive-bred birds were recorded in trade in 1984 and 1985.

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information is from Fuller et al. (1987) unless otherwise indicated.

Brazil All wildlife exports have been banned since 1967.

French Guiana French Guiana is covered by CITES controls as an overseas department of France. Sale and purchase of this species has been banned since May 1986.

Guyana Parrots are not protected in Guyana but are open for exploitation for the local and overseas pet trade. The numbers exported are controlled by quotas; however the quotas are not determined on precise quantitative surveys (Niles, 1981). The quota for this species in 1987/88 was 600 (Thomsen, 1988).

Aratinga solstitialis

Suriname Since 1970, hunting and trade of native birds and mammals has been prohibited except for listed game or domestic species. *A. solstitialis* is not included in the list. No export quota for this species was granted for 1987 (Thomsen, 1988).

Venezuela With few exceptions, all hunting of indigenous wildlife has been prohibited since 1970.

CAPTIVE BREEDING Said to be beautiful and popular as a cage bird, having been imported to Europe in significant numbers only since 1971. It often breeds prolifically in captivity; hundreds of young were being reared annually by the late 1970s in the USA (Low, 1986a).

Table 1. Minimum net imports of live *A. solstitialis* reported to CITES

	1981	1982	1983	1984	1985
Belgium	-	-	-	-	3
Canada	-	12	18	4	7
Germany, F.R.	20	-	-	7	-
Netherlands	-	-	-	-	3
New Zealand	-	-	-	-	12*
Singapore	-	4	-	-	-
Sweden	-	-	4	-	-
UK	35	5	-	12*	36
USA	559	1113	263	68	184
TOTAL	614	1134	285	91	245

Table 2. Reported countries of origin or export for exports of live *A. solstitialis* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. solstitialis</i>					
Guyana	610	1102	285	59	162
Countries without wild populations of <i>A. solstitialis</i>					
Australia	-	-	-	-	12*
Canada	-	-	-	6	-
Netherlands	-	-	-	8*	7*
South Africa	4*	26*	-	22*	37*
Suriname	-	-	-	-	6
Sweden	-	6	-	2*	-
USA	-	-	3	-	-
Venezuela	-	-	-	-	1
Unknown	-	-	-	-	20

* = captive-bred

SCARLET-FRONTED PARAKEET
SCARLET-FRONTED CONURE

Recommended list: 3
[No problem]

Aratinga wagleri (G.R. Gray, 1845)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Distributed primarily to the west of the Andes from Peru through Ecuador to Colombia and extending into northern Venezuela, mainly between 500 and 2000 m. Locally common. Feeds in forest and isolated groves of trees. Nests in cliffs and roosts communally, in flocks of up to 500.

Minimum net imports reported to CITES decreased from a peak of 16 913 in 1982 to 2758 in 1985. The majority of the exports apparently originated in Peru. The sharp decline in exports from Peru and the peak in 1982 are probably attributable to the quotas imposed in 1983. Protected in all range countries except Peru, where there is an export quota.

The Peruvian export quotas appear to have been effective in curtailing the trade. The species is common in the country, but it is recommended that the quotas be clarified and regularly reviewed in relation to population censuses, as local over-collection at cliff nesting sites clearly could be a danger.

DISTRIBUTION Recorded from northern Venezuela across north and western Colombia, western Ecuador down the western slope of the Andes to southern Peru.

A. w. wagleri (G.R. Gray): North-western Venezuela and Colombia.

Colombia Disjunct populations: Santa Marta region (Todd and Carriker, 1922) and the Perija Mountains; Western and Central Andes and the western slope of the Eastern Andes from Antioquia south to northern Narino (Hilty and Brown, 1986).

Venezuela North-western Venezuela, in Sierra de Perija, Zulia, the Andes of west Barinas, Trujillo, and central and southern Lara (Meyer de Schauensee and Phelps, 1978).

A. w. transilis Peters: northern Venezuela and possibly south-west Colombia.

Colombia Meyer de Schauensee (1944) apparently recorded it once from Belen, south-west Caqueta but this is over 1000 km from the range of the subspecies in Venezuela.

Venezuela Northern Venezuela, in western Lara (El Cerron) and the coastal Cordilleras from Yaracuy to the Paria Peninsula, Sucre and northern Monagas (Meyer de Schauensee and Phelps, 1978).

A. w. frontata (Cabanis): western Ecuador and western Peru.

Ecuador Only definitely recorded from the central valley in the south, where recorded from various localities in Loja (Ridgely, 1982).

Peru Western Peru, south to about Chuquibamba, Arequipa (Forshaw and Cooper, 1978). In the department of Lima it is found on the Andean slopes between 1000 and 3000 m (Koeppcke, 1970).

Aratinga wagleri

A. w. minor Carriker: restricted to Peru.

Peru Central and southern areas, east of the range of *A.w. frontata* from the Marañon Valley south to about Ayacucho (Forshaw and Cooper, 1978). Recorded at Ninabamba, 80 miles south-east of Ayacucho (Morrison, 1948a).

POPULATION The species is said to be common and conspicuous very locally, but less numerous elsewhere, often varying seasonally in abundance. The population is thought to be essentially stable (Ridgely, 1981).

Colombia Hilty (1985) implied that the population had declined, by describing the species as "formerly very common". Hilty and Brown (1986) stated that it was still fairly common locally in forested or partially forested moist to humid regions in the Andes and inter-Andean valleys.

Ecuador Butler (1979) reported it to be infrequently seen in Ecuador. Ridgely (1982) did not see flocks of more than 10-12 birds and thought its numbers were relatively small.

Peru O'Neill (1981) said that the species was abundant west of the Andes, and tolerant of human disturbance. Said to be uncommon in the department of Lima (Koepcke, 1970). Very common at Ninabamba, 80 miles south-east of Ayacucho (Morrison, 1948a). Carriker (1933, see Forshaw and Cooper, 1978) reported it to be abundant in the upper Marañon Valley. Parker et al. (1982) described it as common in central areas of Peru. A recent pilot survey in the "El Angelo" hunting district, Sullana, found that *A. wagleri* was relatively numerous, with an apparently stable population (Peru CITES MA, 1985).

Venezuela Very locally distributed in the north-west, but more widespread in the east. Near the Rancho Grande Reserve, Aragua, it was reported to be the most abundant parrot, present in large flocks from January to July during the late 1940s (Schäfer and Phelps, 1954). Ridgely (1982) thought that it was still locally quite common over much of its range in the country.

HABITAT AND ECOLOGY Found in a wide variety of habitats, though feeding mostly in the canopy of forest; the chief requirement seems to be suitable cliff faces for nesting (Ridgely, 1981). Koepcke (1970) reported that it inhabits the Andean slopes but sallies out to woods and cactus groves around cultivated fields and orchards. Found in bushy country, cultivated lands, occasionally town parks (Meyer de Schauensee, 1982). Found chiefly between 500 and 2000 m (Ridgely, 1981), but from the coast up to 3000 m in Peru (Koepcke, 1970). Usually seen in large flocks of up to 300, particularly around communal roosting sites. Food comprises seeds, fruits, berries and nuts, generally procured in the tree tops (Forshaw and Cooper, 1978). Some damage to crops has been reported (O'Neill, 1981). Nesting takes place in inaccessible holes in cliffs (Ridgely, 1981).

THREATS TO SURVIVAL The species is reported to be tolerant of humans, but persecuted locally in Peru as an agricultural pest (O'Neill, 1981). Forest destruction, although extensive at least in Colombia, does not seem to have had a significant impact on the population size, possibly because of the habit of nesting in cliffs, not trees (Ridgely, 1981).

INTERNATIONAL TRADE Minimum net imports reported to CITES decreased from a peak of 16 913 in 1982 to 2758 in 1985 (Table 1). The chief importers were the USA, F.R. Germany and Japan. The majority of the exports apparently originated in Peru, but significant quantities were reported as exports from Ecuador prior to 1983 (Table 2). The sharp decline in exports from Peru and the peak in 1982 are probably attributable to the quotas imposed in 1983. The 1984 quota for Peru was apparently exceeded by 2.5% but exports from that country in 1985 amounted to only 21% of the quota.

Table 1. Minimum net imports of live *A. wagleri* reported to CITES

	1981	1982	1983	1984	1985
Argentina	-	50	-	-	-
Belgium	-	40	-	70	-
Brazil	-	-	1	2	-
Canada	-	36	-	270	185
Denmark	-	20	20	30	95
Germany, F.R.	144	351	443	600	115
Israel	-	-	-	-	20
Italy	-	10	-	-	-
Japan	-	730	100	-	-
Mexico	-	8	-	-	-
Netherlands	25	85	150	45	50
South Africa	-	4	-	2	-
Spain	-	-	10	-	100
Sweden	-	-	-	-	315
Switzerland	-	2	-	-	-
UK	-	308	-	122	66
USA	2802	15269	8405	11168	1810
USSR	-	-	-	-	1
TOTAL	2971	16913	6042	9811	2758

Table 2. Reported countries of origin or export for exports of live *A. wagleri* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. wagleri</i>					
Colombia	-	-	-	-	1
Ecuador	49	269	-	2	-
Peru	2920	16644	9124	12305	2757
Countries without wild populations of <i>A. wagleri</i>					
Costa Rica	-	-	1	-	-
Honduras	2	-	4	-	-
Sweden	-	-	-	-	185
Zimbabwe	-	-	-	2	-

Aratinga wagleri

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information was extracted from Fuller et al. (1987).

Colombia Commercial hunting of all birds has been prohibited since 1973 under Resolucion No. 849.

Ecuador All exports of indigenous wildlife have been prohibited since January 1983, except for educational or scientific purposes.

Peru *A. wagleri* is covered under Resolucion Directoral No. 014-83-DGFF, which, in 1983, established annual quotas for the export of some psittacine species. Included in a list of species allowed for export (CITES Notification to the Parties No. 389, 7 May 1986). The quotas for the years 1984, 1985 and 1986 were 12 000, 13 100 and 10 400 respectively (Peru CITES MA, 1987).

Venezuela With few exceptions all hunting and trade in wildlife has been banned since 1970.

CAPTIVE BREEDING The species is very uncommon in captivity (Ridgely, 1981) but has bred at least to third generation in zoos. It is frequently confused with other species of *Aratinga* (Low, 1986a).

DUSKY-HEADED PARAKEET
DUSKY-HEADED CONURE

Recommended list: 3
[No problem]

Aratinga weddellii (Deville, 1851)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Distributed east of the Andes from south-eastern Colombia through eastern Ecuador to Peru, western Brazil and northern Bolivia. Said to be generally common, particularly in riverine forest and clearings. Feeds chiefly on fruits, and is rarely persecuted. Tolerates human presence and partial forest clearance.

Minimum net imports reported to CITES decreased from 5752 in 1982 to 30 in 1985. The majority of the exports apparently originated in Bolivia, with smaller numbers from Peru and Ecuador in 1981. The decline in trade in 1984 and 1985 may have been due to the Bolivian export ban imposed on 1 May of that year. Protected or banned from export in all countries of origin.

It is unlikely that the levels of trade reported have been excessive for this common and widespread parrot. The species is currently banned from export in all countries of origin, and there is no evidence that the bans are being contravened.

DISTRIBUTION East of the Andes from south-eastern Colombia to Peru including eastern Ecuador, western Brazil and northern Bolivia.

Bolivia Apparently restricted to Beni and Cochabamba (Forshaw and Cooper, 1978). Recorded from Todos Santos, Cochabamba (Bond and Meyer de Schauensee, 1943). Ridgely (1982) suggested that it probably also occurred in northern La Paz.

Brazil Recorded from western Brazil, from the Peruvian border east to the Rio Madeira drainage and south to Bolivia; not formally recorded from north of the Amazon River but probably occurs from east of Leticia, Colombia east to the mouth of the Rio Putumayo (Ridgely, 1982).

Colombia East of the Andes from western Caqueta (Belen) to Putumayo and Amazonas (Hilty and Brown, 1986).

Ecuador Eastern parts of the country (Forshaw and Cooper, 1978).

Peru East of the Andes (O'Neill, 1981). Recorded from Yarinacocha, Loreto (Traylor, 1958). Ridgely (1982) stated that it did not occur in the major valleys up into the foothills.

POPULATION Ridgely (1981) described it as common to fairly common over most of its range, even in areas that have been partially cut over and settled. Population thought to be stable.

Bolivia Reported to be common at Tumi Chucua, Beni (Forshaw and Cooper, 1978). Said to be recorded with some frequency in the Amazonian zone (Olrog, 1963a). Seemingly more local and less numerous southward into northern Cochabamba (Ridgely, 1982).

Brazil Thought to be numerous in the Brazilian part of its range, but only seen at Manaus (Ridgely, 1979).

Aratinga weddellii

Colombia One of the most conspicuous parrots around Leticia along the Amazon River; seemingly less numerous closer to the Andes in western Putumayo (Ridgely, 1982).

Ecuador Common in suitable habitats in Loreto (Forshaw and Cooper, 1978). Butler (1979) reported it to be frequently seen in eastern Ecuador.

Peru Said to be locally common to abundant, east of the Andes (O'Neill, 1981). Parker et al. (1982) described it as common in humid tropical parts of Peru.

HABITAT AND ECOLOGY. Found especially in Varzea forest, along the edge of rivers and in clearings and rivers, almost always in lowlands (Ridgely, 1981). It has also been reported in cane fields, coffee plantations, usually in groups of up to six birds. Feeds mostly on fruits, including fleshy palm fruits. Nests in holes in trees, probably in August (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Ridgely (1981) considered that the species remained numerous even in areas that had been partially cut over and settled. O'Neill (1981) claimed it was rarely persecuted.

INTERNATIONAL TRADE Minimum net imports reported to CITES decreased from 5752 in 1982 to 30 in 1985 (Table 1). The chief importers were the USA, F.R. Germany and Canada. The majority of the exports apparently originated in Bolivia, with smaller numbers from Peru and Ecuador in 1981. The decline in trade in 1984 and 1985 may be due to the Bolivian export ban imposed in that year. Exports reported from Honduras in 1983, 1984 and 1985 are probably the result of confusion with another species (Table 2). Export figures supplied by the Santa Cruz regional wildlife management authority show that from 1980 to 1983 a total of 17 195 *A. weddellii* were exported from Bolivia.

Table 1. Minimum net imports of live *A. weddellii* reported to CITES

	1981	1982	1983	1984	1985
Austria	-	30	-	-	-
Canada	30	231	140	75	-
Germany, F.R.	46	130	100	-	-
Netherlands	6	-	-	-	-
Sweden	-	-	-	-	2
Switzerland	10	-	-	-	-
UK	200	-	-	-	-
USA	4230	-	4419	785	28
Unknown	5	5361	-	-	-
TOTAL	4527	5752	4659	860	30

Table 2. Reported countries of origin or export for exports of live *A. weddellii* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>A. weddellii</i>					
Bolivia	4315	5752	4643	810	-
Ecuador	12	-	-	-	-
Peru	200	-	-	-	-
Countries without wild populations of <i>A. weddellii</i>					
Honduras	-	-	16	50	28
Netherlands	-	-	-	-	2 *

* captive-bred

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information was extracted from Fuller et al. (1987).

Bolivia All exports of live wildlife have been banned since 1 May, 1984.

Brazil All exports of live wildlife have been prohibited since 1967.

Colombia Commercial hunting of all birds has been prohibited since 1973 under Resolucion No. 849.

Ecuador All exports of indigenous wildlife have been prohibited since January 1983, except for educational or scientific purposes.

Peru All commercial wildlife hunting and export from the Selva region, east of the Andes has been prohibited since 1973. Not included in a list of species allowed for export (CITES Notification to the Parties No. 389, 7 May 1986).

CAPTIVE BREEDING The species was rare in captivity until the mid-1970s. Since then it has been bred in small numbers in a few countries (Low, 1986a).

GREY-HOODED PARAKEET

Recommended list: 3
[No problem]

Bolborhynchus ayмара (d'Orbigny, 1839)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A species of moderate to high altitudes from the eastern slopes of the Andes from north-western Argentina into Bolivia. It is described as fairly common throughout its range and not currently endangered. It favours shrubby areas in arid regions, and often occurs in trees around houses, and in areas that have been intensively farmed for a long time. In winter it descends to lower altitudes, where it may be seen in large feeding flocks. Breeds in captivity, but problems of adjusting to low altitudes, and consequent high mortality have been reported.

Minimum net imports reported to CITES in the years from 1981 to 1985 varied between zero and 734. The majority of the exports apparently originated in Argentina. Banned from export since 1984 in Bolivia and since 1986 in Argentina.

The species is relatively abundant and does not appear to be threatened in any way. The limited trade up to 1980 did not appear to have had any effect on wild populations, and reported trade from 1981 to 1985 was quite low.

DISTRIBUTION Eastern slopes of the Andes from north-western Argentina into northern Bolivia.

Argentina Found in the north-west of the country, from Jujuy and western Salta south to Mendoza, San Luis and western Cordoba (Nores et al., 1983).

Bolivia Found in the south of the country on the eastern slopes of the Andes. Recorded from altitudes of 1500-2500 m in Santa Cruz (Remsen et al., 1986), and over 2500 m in Potosi (Nores and Yzurieta, 1984b). Ridgely (1982) recorded it from La Paz, south through much of Cochabamba into western Santa Cruz, Chuquisaca and Tarija as well as in eastern Potosi.

Chile Contrary to previous reports (Peters, 1937), the species does not occur in Chile (Ridgely, 1982).

POPULATION Fairly common throughout its range (Ridgely, 1981).

Argentina Although the species is not common, it is seen reasonably frequently in large flocks in the winter, when they descend to lower altitudes (Nores et al., 1983). Navas (Argentina CITES MA, 1986) reported that the species was relatively abundant, with a stable population, and not currently endangered. Described by Olrog (1984) as locally abundant. Wetmore (1926) reported that it was common above Poterillos in Mendoza.

Bolivia Nores and Yzurieta (1984b) reported seeing a flock of 80 in Potosi. Ridgely (1981) found the species more common in Bolivia than in Argentina, although he admits that this may have been fortuitous. Ridgely (1982) described it as locally quite common, especially in western and southern Cochabamba.

HABITAT AND ECOLOGY Basically a highland species, from altitudes of 1800-3000 m, although it has been reported up to 4000 m and down to 1200 m in winter (Forshaw and Cooper, 1978). It favours shrubby areas in arid regions, and often occurs in trees around houses, villages and in agricultural

Bolborhynchus aymara

areas (Ridgely, 1981; Olrog, 1984), and in damp ravines at higher altitudes (Nores et al., 1983). In winter it descends to lower altitudes, often in large flocks. It is highly gregarious, and feeds in berry-bearing bushes and seeds in the grass below. Little is known of its breeding, but nesting has been reported in a hole excavated in an earth bank, in which 4-6 eggs are laid (Forshaw and Cooper, 1978). Ten nests have been reported in holes in a cactus (Low, 1986a).

THREATS TO SURVIVAL The species does not appear to be threatened in any way, and often occurs in areas that have long been intensively farmed. The limited trade up to 1980 did not appear to have had any effect on wild populations (Ridgely, 1981).

INTERNATIONAL TRADE Minimum net imports reported to CITES in the years from 1981 to 1985 varied between zero and 734 (Table 1). The chief importers were F.R. Germany, Denmark, the Netherlands and the USA. The majority of the exports apparently originated in Argentina, but 50 birds were reported as exports from Bolivia in 1983 (Table 2).

Table 1. Minimum net imports of live *B. aymara* reported to CITES

	1981	1982	1983	1984	1985
Czechoslovakia	-	50	-	-	-
Denmark	-	-	-	-	150
France	30	-	-	-	-
Germany, F.R.	-	420	60	-	-
Netherlands	200	135	-	-	-
Portugal	-	25	-	-	-
Spain	30	-	-	-	-
UK	170	-	-	-	-
USA	70	104	50	-	450
TOTAL	500	734	110	0	600

Table 2. Reported countries of origin or export for exports of live *B. aymara* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>B. aymara</i>					
Argentina	500	734	60	-	600
Bolivia	-	-	50	-	-

Bolborhynchus aymara

CONSERVATION MEASURES Both of the range states are Parties to CITES. The following information is extracted from Fuller et al. (1987).

Argentina Included in a general ban on export of wildlife (CITES Notification to the Parties No. 412, 28 November 1986).

Bolivia All exports of live wildlife have been prohibited since 1 May 1984.

CAPTIVE BREEDING The species was rare in aviculture before the 1960s. Sporadic breeding has been recorded, but early mortality of imported birds has been reported, and may be attributable to difficulties of adjusting to lower altitudes (Low, 1986a).

ANDEAN PARAKEET

Recommended list: 3
[No problem]

Bolborhynchus orbynesius (Souancé, 1856)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A little-known species from sparsely populated areas of the high Andes of Peru and northern Bolivia. Inhabits lighter scrub and woodland, and is often seen in flocks of 5-50, feeding on seeds, fruit and berries.

Minimum net imports reported to CITES in the years from 1981 to 1985 varied between 162 and 990. The majority of the exports apparently originated in Peru. Listed in Peru as an exportable species. Rare in aviculture, but has bred in captivity.

The relatively small volume of trade in this species, coupled with the reports that it is fairly common, suggest that there is currently no problem. Further information on the wild population status, particularly in Bolivia, would be desirable.

DISTRIBUTION Found in a limited range in Peru and northern Bolivia.

Bolivia Found on the north-east slope of the Andes, in La Paz and northern Cochabamba (Ridgely, 1981).

Peru Mainly on the eastern slope of the Andes, from Cajamarca to the south of the country (Roe and Rees, 1979; Ridgely, 1981), but also extending to the west in the Department of Lima (Koeppcke, 1970).

POPULATION Locally fairly common to occasionally common, though the species is relatively poorly known, inhabiting sparsely populated areas. There has probably been little or no recent decline in numbers (Ridgely, 1981).

Bolivia No information.

Peru Reported to be seasonally fairly common on the eastern slope of the Andes in Junin, Ayacucho and Puno (Peters and Griswold, 1943; Morrison, 1948a; Dorst, 1961). Parker (in Ridgely, 1982) has recently considered it to be uncommon and sporadic on the eastern slope and even less numerous on the western slope of the Andes.

HABITAT AND ECOLOGY. Found in the high Andes, from 1500 m (Koeppcke, 1970) to 6250 m (Forshaw and Cooper, 1978), inhabiting lighter, temperate scrub, rather than tall woodland (Ridgely, 1981). It is usually encountered in flocks of 5-50, which spend most of the day foraging in shrubs or on the ground for seeds, fruits and berries. It has been reported to migrate to higher valleys in the warmer weather after the end of a period of rain. There are unconfirmed reports that the species nests in holes in banks (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL The species inhabits sparsely settled areas, where there has been little habitat disturbance (Ridgely, 1981).

INTERNATIONAL TRADE Minimum net imports reported to CITES in the years from 1981 to 1985 varied between 162 and 990 (Table 1). The chief importers were F.R. Germany, the Netherlands, Belgium and the USA. The majority of the

Bolborhynchus orbygnesi

exports apparently originated in Peru, but 32 birds were reported as exports from Bolivia in 1981 (Table 2). The exports from Peru in 1984 and 1985 amounted to 41% and 38% of the annual quotas respectively.

Table 1. Minimum net imports of live *B. orbygnesi* reported to CITES

	1981	1982	1983	1984	1985
Belgium	-	50	280	-	-
Denmark	-	-	70	80	70
Germany, F.R.	132	140	220	170	310
Italy	-	-	40	-	-
Japan	-	100	-	60	-
Netherlands	-	80	220	240	120
South Africa	-	10	-	6	-
Spain	-	-	20	-	-
UK	30	-	-	234	-
USA	-	-	100	200	30
TOTAL	162	380	950	990	715

Table 2. Reported countries of origin or export for exports of live *B. orbygnesi* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>B. orbygnesi</i>					
Bolivia	32	-	-	-	-
Peru	130	380	950	990	-

CONSERVATION MEASURES Both of the range states are Parties to CITES. Information on legislation is extracted from Fuller et al. (1987).

Bolivia Not specifically referred to in Bolivian legislation. All exports of live wildlife have been prohibited since 1 May 1984.

Peru Resolucion Directorial No. 014-83-DGFF, passed in 1983, established annual quotas for the export of various psittacines from the coastal and Sierra regions, including *B. orbygnesi*. The quotas for the years 1984, 1985 and 1986 were 2400, 1900 and 600 respectively (Peru CITES MA, 1987).

CAPTIVE BREEDING The species is very rare in aviculture. It has been bred in Denmark since 1982 (Low, 1986a).

COBALT-WINGED PARAKEET

Recommended list: 3

[No problem]

Brotogeris cyanoptera (Pelzeln, 1870)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Found in the lowland forests of western Amazonia from southern Venezuela, through Colombia, Ecuador and Peru to northern Bolivia. Thought to be common throughout most of its range, though difficult to see, as it spends much of its time high in the canopy. Populations have been locally depleted by over-collecting near Iquitos. Protected or banned from export in all range countries.

Minimum net imports reported to CITES rose to a peak of 393 in 1983 and then fell to 2 in 1984 and 4 in 1985. Most of the exports originated in Bolivia, with small quantities reported from Ecuador and Venezuela, although there are indications that the CITES figures may under-estimate the true level of trade.

The ban on exports of live wildlife from Bolivia imposed on 1 May 1984 appears to have been effective in reducing the trade to an insignificant level. Provided the trade does not increase again no problems need arise.

DISTRIBUTION Found in southern Venezuela, south-eastern Colombia, eastern Peru, western Brazil and eastern Ecuador, south to north-western Bolivia (Ridgely, 1981). Three subspecies are recognised:

B. c. cyanoptera (Pelzeln): Brazil to southern Venezuela, south-eastern Colombia, eastern Ecuador and eastern Peru (Forshaw and Cooper, 1978). Intergrades with *gustavi* in north-eastern Peru and with *beniensis* in northern Bolivia.

Bolivia Intergrades with *B. c. beniensis* in northern Bolivia (Forshaw and Cooper, 1978). Both *B. c. cyanoptera* and *B. c. beniensis* have been recorded from Chatarona and Susi in Beni, and *B. c. cyanoptera*, alone, was recorded from Todos Santos in Cochabamba (Bond and Meyer de Schauensee, 1943). *B. cyanoptera* (subspecies unspecified) has also been recorded from Ixiamas in La Paz and Nueva Moka in Santa Cruz (Remsen et al., 1986).

Brazil Distributed in Amazonas from the Rios Purus and Negro to the Venezuelan border (Forshaw and Cooper, 1978). Recorded from the upper Rio Jurua (Gyldenstolpe, 1951), and from Alaraca in Roraima (Moskovits et al., 1985).

Colombia East of the Andes from western Meta, northeast Meta and the Orinoco region southward (Hilty and Brown, 1986).

Ecuador Found in the east (Butler et al., 1979; Forshaw and Cooper, 1978).

Peru Intergrades with *B. c. gustavi* in the lower Huallaga Valley, in the north-east (Traylor, 1958; Forshaw and Cooper, 1978).

Venezuela Confined to Amazonas (Meyer de Schauensee and Phelps, 1978).

B. c. gustavi Berlepsch

Peru Confined to the upper Huallaga Valley, (Forshaw and Cooper, 1978).

Brotogeris cyanoptera

B. c. beniensis Gyldenstolpe

Bolivia Confined to northern Bolivia in Beni province, where it may intergrade with *B. c. cyanoptera* (Forshaw and Cooper, 1978). See under *B. c. cyanoptera*.

POPULATION Fairly common to common throughout much of its range (Ridgely, 1981); reportedly abundant in eastern Peru (O'Neill, 1981) but little is known about the species.

Bolivia Said to be common near Tumi Chucua (Pearson 1975b, see Forshaw and Cooper, 1978). Ridgely (1982) described it as at least locally common, but apparently less numerous further south.

Brazil Said to be common in the upper Amazon and "probably equivalently numerous in the Brazilian portion of its range" (Ridgely, 1981). Listed as uncommon at Alaraca in Roraima (Moskovits et al., 1985).

Colombia In the vicinity of Tres Esquinas, Caqueta, this species was one of the two most common parrots (Dugand and Borrero, 1948, see Forshaw and Cooper, 1978). Hilty and Brown (1986) described it as locally common.

Ecuador Listed as common in the Limoncocha district (Pearson 1972, see Forshaw and Cooper, 1978); and as fairly common and widespread (Ridgely, 1982).

Peru Said to be abundant in eastern Peru, though locally depleted around Iquitos (O'Neill, 1981). Listed as common in the humid tropical zone (Parker et al., 1982). Common in Manu National Park (Terborgh et al., 1984). Common in the Yarinacocha district (Pearson, 1975b). Ridgely (1981) considered that *B. c. gustavi*, found in the upper Huallaga Valley, was somewhat less numerous.

Venezuela No information.

HABITAT AND ECOLOGY. A forest-based species, most numerous in the canopy of humid tierra firme forest, but also occurring in varzea forest. Found almost entirely in the lowlands, up to 600 m at the base of the Andes. It often flies over clearings but seldom perches in them (Ridgely, 1981). Meyer de Schauensee (1964) claimed that it inhabits tropical savannahs in Colombia, and O'Neill (1981) said that it was tolerant of clearings. Usually travels in pairs or groups of up to 30, high in the canopy, often visiting flowering or fruiting trees (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Tolerant of clearings and edge environments (O'Neill, 1981), and therefore presumably habitat modification, although Ridgely (1979; 1981) said that the species preferred the high canopy and was less common in edges and clearings than its congeners. Much suitable habitat remains in virtually all of the range (Ridgely, 1981), although, in Santa Cruz, Bolivia, massive deforestation has occurred, which is threatening to extirpate the forest species (Remsen et al., 1986). *B. cyanoptera* has been heavily persecuted in Peru, particularly near Iquitos, but populations should increase with protection. It is one of the most common pet birds in east Peru but can probably withstand controlled harvesting (O'Neill, 1981).

INTERNATIONAL TRADE Minimum net imports reported to CITES rose to a peak of 393 in 1983 and then fell to 2 in 1984. The main importing countries were the USA, Italy and F.R. Germany (Table 1). Most of the exports originated in Bolivia, with small quantities reported from Ecuador and Venezuela (Table 2).

Brotogeris cyanoptera

The ban on exports of live wildlife from Bolivia imposed in 1984 appears to have been effective in reducing the trade to an insignificant level. Export figures supplied by the Santa Cruz regional wildlife management authority show that from 1980 to 1983 a total of 2336 *B. cyanoptera* were exported from Bolivia, indicating that the CITES figures may have substantially underestimated the level of trade.

Table 1. Minimum net imports of live *B. cyanoptera* reported to CITES.

	1981	1982	1983	1984	1985
Canada	-	-	-	2	-
Germany, F.R.	28	-	4	-	-
Italy	-	-	20	-	-
South Africa	2	-	-	-	-
Spain	-	-	4	-	-
USA	-	263	365	-	4
Total	30	263	393	2	4

Table 2. Countries of origin or export for exports of live *B. cyanoptera* reported to CITES.

	1981	1982	1983	1984	1985
Countries with wild populations of <i>B. cyanoptera</i>					
Bolivia	30	263	385	2	-
Colombia	-	-	-	-	2
Ecuador	10	-	4	-	-
Venezuela	-	-	4	-	-
Unknown	-	-	-	-	2

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information was extracted from Fuller et al. (1987).

Bolivia All exports of live wildlife have been banned since 1 May, 1984.

Brazil All wildlife exports have been banned since 1967.

Colombia Commercial hunting of all birds has been prohibited since 1973 under Resolucion No. 849.

Ecuador All exports of indigenous wildlife have been prohibited since January 1983, except for educational or scientific purposes.

Peru All commercial hunting of wildlife in the Selva region, east of the Andes has been prohibited since 1973. Not included in a list of species allowed for export (CITES Notification to the Parties No. 389, 7 May 1986).

Brotogeris cyanoptera

Venezuela With few exceptions, all hunting of indigenous wildlife has been prohibited since 1970.

CAPTIVE BREEDING The species is very uncommon in captivity and only one breeding record has been reported (Low, 1986a).

PLAIN PARAKEET

Recommended list: 3*
[No problem]

Brotogeris tirica (Gmelin, 1788)

Order PSITTACIFORMES

Family PSITTACIDAE

* but see last sentence of summary

SUMMARY AND CONCLUSIONS Endemic to south-eastern Brazil, from Bahia to Sao Paulo. Uncommon to fairly common, being particularly associated with forest-edge environments. Tolerates habitat disturbance well and thrives in parks, even within cities. Now rare in captivity. Banned from export in Brazil.

The only trade in this species recorded between 1981 and 1985 was an import of 700 live birds from Bolivia reported by the USA in 1981. It does not occur in Bolivia, and so this is either an error or represents birds illegally exported from Brazil.

The amount of trade recorded cannot be considered a threat to this species; however no birds should be in international trade as it has been banned from export since 1967.

DISTRIBUTION Endemic to south-eastern Brazil, from Alagoas (Teixeira et al., 1986) and Bahia south through Espirito Santo and Rio de Janeiro at least to Sao Paulo, and inland across southern Minas Gerais to southern Goias. Probably occurs further south in Brazil, but not as far as Rio Grande do Sul (Ridgely, 1981; Scott and Brooke, 1985), where the only record is considered to be unsubstantiated (Belton, 1984).

POPULATION Uncommon to fairly common over its entire range, but nowhere numerous. Said to reach its highest densities in forest-edge habitats (Ridgely, 1981). Scott and Brooke (1985) described it as common in Sooretama Biological Reserve, Espirito Santo, fairly common in the Serra dos Orgaos National Park, Rio de Janeiro, uncommon at Serra do Tingua, Rio de Janeiro, and rare at Serra da Siberia, Rio de Janeiro. Listed as common in the Reserva Florestal da CVRD-Linhares, Espirito Santo (Scott, 1985). Described as rather common in Serra Branca Murici, Alagoas in 1984 (Teixeira et al., 1986).

HABITAT AND ECOLOGY. Relatively adaptable, occurs in habitats ranging from the canopy and edge of forest into semi-open, partially cultivated land; also found in suburban areas and parks. Mostly lowland, but locally ranges up to 1200 m (Ridgely, 1981; Sick, 1984). Food comprises seeds, fruits, berries, blossoms, nectar and possibly insects and their larvae. Nesting has been recorded from early September onwards in hollow trees (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL This species tolerates habitat disturbance fairly well, provided there are some trees left, but has been eradicated from the areas of most intensive agriculture (Ridgely, 1981). In some cases, habitat modification may even benefit the species, as it favours the forest-edge environment, and thrives in parklands (Ridgely, 1979; Forshaw and Cooper, 1978).

INTERNATIONAL TRADE The only trade in this species recorded between 1981 and 1985 was an import in 1981 of 700 live birds from Bolivia reported by the USA. It does not occur in Bolivia, and so this is either an error or represents birds illegally exported from Brazil. Figures supplied by the Santa Cruz regional wildlife management authority show no exports of *B. tirica* from Bolivia.

Brotogeris tirica

CONSERVATION MEASURES Brazil is a party to CITES and all exports of live wildlife have been banned since 1967 (Fuller et al., 1987).

CAPTIVE BREEDING The species is now very rare in captivity, and although breeding has occurred in the past, it is now infrequent (Low, 1986a). The species is seldom caged even in Brazil (Ridgely, 1981).

CANARY-WINGED PARAKEET

Recommended list: 2
[Possible problem]

Brotogeris versicolorus (P.L.S. Muller, 1776)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Widely distributed from northern Argentina through Paraguay and Bolivia and most of Brazil to eastern Peru and Colombia, and possibly French Guiana and Ecuador. Three subspecies have been recognised, which have markedly different habitat preferences. *B. v. versicolorus* is found almost exclusively along the Amazon River; *B. v. chiriri* is found in open woodland including parts of the caatinga, chaco and in the pantanal; and *B. v. behni* inhabits the western, drier fringe of the chaco. At least locally common throughout most of its range.

Minimum net imports reported to CITES decreased from a peak of 9491 in 1982 to 1182 in 1984 but rose again to 7146 in 1985. The majority of the exports apparently originated in Bolivia, but in 1985 significant quantities were reported as exports from Argentina and Peru. The sharp decline in exports from Bolivia in 1984 is probably attributable to the ban imposed on 1 May of that year. Protected or banned from export in all range countries except Argentina.

The Bolivian export ban appears to have been effective in slowing trade, but the shift in trade in 1985 to Argentina and Peru needs to be carefully monitored, especially considering the conflicting accounts of its status in Argentina. If Bolivia resumes exports it will become necessary to determine the status of the species in that country.

DISTRIBUTION Distributed from northern Argentina, through Paraguay and Bolivia and most of Brazil to eastern Peru and Colombia, and possibly French Guiana and Ecuador. Three subspecies have been recognised. *B. v. chiriri* and *B. v. behni* are similar, but differ markedly from *B. v. versicolorus*, and may even represent a different species (Ridgely, 1981).

B. v. versicolorus (Yellow-winged Parakeet) Primarily distributed along the Amazon River and its major tributaries, from the mouth in Brazil to north-eastern Peru, south-eastern Colombia, and possibly Ecuador. Also possibly in French Guiana.

Brazil Recorded along the entire Amazon River, from the Belem area and the islands in the river mouth to the western border (Ridgely, 1982).

Colombia Recorded from the vicinity of Leticia in extreme south-east Amazonas (Dugand and Borrero, 1946, see Forshaw and Cooper, 1978) and occurs in a few other locations along the Amazon River (Hilty and Brown, 1986).

Ecuador The only record from Ecuador is that of Goodfellow (1900, see Ridgely, 1981) who observed "thousands" along the lower Rio Napo. Ridgely (1981) thought it likely that this was within the territory subsequently ceded to Peru.

French Guiana No recent records have been located, and most references to French Guiana seem to derive from the inclusion of this species in Berlepsch (1908). Further confirmation of its existence in the country is necessary.

Brotogeris versicolorus

Peru Found in north-east and central Peru (O'Neill, 1981) to the Rio Ucayali drainage in Loreto (Ridgely, 1981). Recorded from Yarinacocha (Traylor, 1958). A small introduced population, derived from escaped cage birds, exists around Lima (Koepcke, 1970; O'Neill, 1981). The population is said to be thriving, and flocks of up to ten birds have been seen in the surrounding countryside (Long, 1981).

Puerto Rico *B. versicolorus* (probably *B. v. versicolorus*) is introduced and well established in Puerto Rico. It can be seen in flocks of over 100 birds (Raffaele, 1983).

Suriname No records from Suriname have been located, although several general works include the country in the distribution (e.g. Low, 1972; Peters 1937). Haverschmidt (1968) did not include it and Ridgely (1981) said that the species possibly occurred, apparently on the evidence of an export shipment from the country.

USA Introduced populations (probably of this subspecies (Forshaw and Cooper, 1978)) are well established in California, Florida and possibly Long Island. A large flock has once been reported in eastern Connecticut (Long, 1981; Arrowood, 1981). In California it is now a local resident on Palos Verde peninsula at Point Firmin, and in Florida it is established between south Miami and Homestead (USA CITES MA, 1987).

B. v. chiriri (Vieillot): Widely distributed in southern Brazil, northern and eastern Bolivia, Paraguay and north-eastern Argentina.

Argentina Occurs along the west bank of the Rio Paraguay in eastern Chaco and Formosa, and in the north-east in Misiones (Ridgely, 1982).

Bolivia Chiefly in the north-west of the country in the pantanal of Beni and northern Santa Cruz (Short, 1975). Recorded from Chatarona (Beni) and Bueno Vista (Santa Cruz) (Bond and Meyer de Schauensee, 1943). Recorded from near San José de los Chicenitos, Santa Cruz (Olrog, 1963a).

Brazil Occurs widely from northern Ceara and Maranhao south and west to the Bolivian and Paraguayan borders, and western Sao Paulo. Also recorded in Guanabara, Rio de Janeiro (Sick and Pabst, 1963) and northern Espirito Santo in 1980 but Ridgely (1982) suggests that these records may relate to escapes.

Paraguay Occurs along the Rio Paraguay in the pantanal and eastern moist chaco, probably not extending to the west of the country (Short, 1975).

B. v. behni Neumann: Occurs on the western edge of the chaco (Short, 1975). This subspecies is very similar to *B. v. chiriri* (Ridgely, 1981).

Argentina Occurs locally along the base of the Andes in Salta (Ridgely, 1982).

Bolivia South of the range of *B.v. chiriri* in southern Santa Cruz and Tarija (Ridgely, 1982). Recorded from Ele-Ele in Cochabamba (Bond and Meyer de Schauensee, 1943).

Paraguay The distribution possibly includes western Paraguay (Short, 1975).

POPULATION The Amazonian sub-species appears to be locally distributed; Ridgely (1980) found them to be surprisingly uncommon in the upper Amazon, though he thought that they might be more numerous further down-river. The southern two sub-species are comparatively widespread and, in many areas, common, though less so at the southern end of the range (Ridgely, 1981). The conflicting reports of its status in Argentina need to be resolved.

Argentina Ridgely (1982) found that it was apparently rare; he only saw a single pair in northern Salta. Olrog (1984) described it as very local. However in 1986 the population was described as relatively abundant and stable (Argentina CITES MA, 1986).

Bolivia Ridgely (1982) found it to be common in parts of Santa Cruz, but no information is available from elsewhere.

Brazil *B. v. versicolorus* is abundant in the Amazon delta near Belem (Sick, 1984; Ridgely, 1982), though surprisingly uncommon upstream (Ridgely, 1981). *B. v. chiriri* is reported to be common to abundant in most parts of its range (P. Roth, *in litt.*, 17 December 1985; Ridgely, 1981), and was said to be common almost everywhere the expedition stopped in Mato Grosso in 1916 (Naumburg, 1930). Stager (1961) reported it to be abundant in central Goias. Rare in the coastal south-east, and perhaps only a seasonal wanderer (Ridgely, 1982).

Colombia Mainly confined to a small area around Leticia, where Dugand and Borrero (1946) found it to be the most common parrot; the local population was increased in the early 1960s by the release of large numbers of caged birds. Uncommon and widely scattered away from Leticia (Hilty and Brown, 1986).

Paraguay Fairly common over most of its range and most numerous in semi-open areas (Ridgely, 1982).

Peru Common and abundant except in the region around Iquitos, where populations declined because of heavy persecution for the pet trade; now that trapping has ceased it has reappeared again, even around Iquitos (O'Neill, 1981). Ridgely (1981) found them to be numerous only around Pucallpa, but said (*in litt.*, 5 December 1985) that the species remained abundant in north-east Peru.

HABITAT AND ECOLOGY The three subspecies have markedly different habitat preferences. *B. v. versicolorus* is found almost exclusively along the Amazon River and lower parts of major tributaries, in secondary growth and varzea forest and in clearings around some towns (Ridgely, 1981). *B. v. chiriri* is found in open woodland including parts of the caatinga and chaco, it also occurs regularly in gallery forest (Ridgely, 1981), and, in the south of its range, in the pantanal and eastern moist chaco. *B. v. behni* inhabits the western, drier fringe of the chaco (Short, 1975). These parrots are usually seen in flocks of 8-50 birds, though at certain times of year flocks containing hundreds of birds may be encountered. Food comprises mostly fruits, berries, blossoms and vegetable matter. Breeding has been reported in July in Peru, and implied in January in Mato Grosso. Nests have been reported in hollow trees and in a hole excavated in an arboreal termite mound (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Heavily persecuted for the pet trade in the past around Iquitos, Peru (O'Neill, 1981). Said to have been regularly for sale at the bird market in Lima (Koepcke, 1970). The species is a popular cage bird in Brazil, young birds being removed from the nest for this purpose (P. Roth, *in litt.*, 17 December 1985; Ridgely, 1979).

Brotogeris versicolorus

INTERNATIONAL TRADE This species was formerly exported in very large numbers, mainly from Peru and Colombia (therefore probably *B. v. versicolorus*), but exports have declined (Ridgely, 1981), probably as a result of the export bans imposed in both countries. The two southern subspecies have been appearing in trade in increasing numbers, from Bolivia and Argentina (Ridgely, 1981). From 1968 to 1972 a total of 262 781 *B. versicolorus* were imported to the USA, mostly from Peru (Arrowood, 1981).

Minimum net imports reported to CITES decreased from a peak of 9491 in 1982 to 1182 in 1984 but then rose again to 7146 in 1985 (Table 1). The chief importers were the USA and F.R. Germany. The majority of the exports until 1984 apparently originated in Bolivia, but significant quantities were also reported as exports from Argentina. In 1985 substantial numbers were exported from both Argentina and Peru. The sharp decline in exports from Bolivia in 1984 is probably attributable to the ban imposed in that year (Table 2). Export figures supplied by the Santa Cruz regional wildlife management authority show that from 1980 to 1983 a total of 18 452 *B. versicolorus* were exported from Bolivia. Ridgely (*in litt.*, 5 December 1985) claimed that *B. versicolorus* is exported in substantial numbers from Peru under the name of *Brotogeris pyrrhopterus* to circumvent the ban on exports from the Selva region. The USA reported the import of 2832 birds of this species from Peru in 1985, despite the existence of an export ban in Peru from at least 1982.

Table 1. Minimum net imports of live *B. versicolorus* reported to CITES

	1981	1982	1983	1984	1985
Austria	-	30	-	-	5
Belgium	-	-	45	-	-
Canada	40	25	-	-	150
Denmark	10	-	-	-	39
France	-	150	-	-	220
Germany, F.R.	344	560	189	-	250
Hong Kong	100	-	-	-	-
Italy	-	-	35	-	-
Japan	-	300	-	-	-
Netherlands	-	100	-	-	80
Portugal	-	25	-	-	1
Saudi Arabia	-	-	-	100	-
South Africa	-	11	10	-	-
Spain	-	-	150	-	-
Sweden	-	100	-	-	-
Switzerland	-	4	-	-	-
UK	-	52	1	-	-
USA	6443	8134	6118	1082	6401
TOTAL	7527	9491	6548	1182	7146

Brotogeris versicolorus

Table 2. Reported countries of origin or export for exports of live *B. versicolorus* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>B. versicolorus</i>					
Argentina	912	1816	910	399	4312
Bolivia	6521	7673	5673	783	-
Paraguay	94	-	-	-	-
Peru	-	-	-	-	2832
Countries without wild populations of <i>B. versicolorus</i>					
Germany, F.R.	-	-	1*	-	-
Honduras	-	-	-	-	1*
Unknown	-	2	-	-	1

* captive-bred

CONSERVATION MEASURES All of the range states are Parties to CITES. French Guiana is an overseas Département of France, and is therefore covered by E.E.C. legislation. The following information is mainly extracted from Fuller et al. (1987).

Argentina Considered a harmful species and therefore excluded from a general ban on trade in wildlife under Resolution No. 62 of 14 March 1986 (CITES Notification No. 412, 28 November 1986).

Bolivia All exports of live wildlife have been banned since 1 May 1984.

Brazil All exports of live wildlife have been prohibited since 1967.

Colombia Commercial hunting of all birds has been prohibited since 1973 under Resolucion No. 849.

Ecuador All exports of indigenous wildlife have been prohibited since January 1983, except for educational or scientific purposes.

Paraguay All exports of wildlife have been prohibited since 1975.

Peru All exports of wildlife from the Selva region, to the east of the Andes, have been prohibited since 1974. Not included in a list of species allowed for export (CITES Notification to the Parties No. 389, 7 May 1986).

CAPTIVE BREEDING The species has been one of the more freely imported and inexpensive parrots, but it does not breed readily (Low, 1986a).

WHITE COCKATOO

Recommended list: 2
[Possible problem]

Cacatua alba (P.L.S. Müller, 1776)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A monotypic species which is endemic to Indonesia and confined to Obi, Bacan, Halmahera, Ternate and Tidore (northern Maluku). In 1980/81 it was regarded as locally common on Bacan and Halmahera (where on one occasion a flock of 50 birds was noted); the status of the population on Ternate was uncertain. Mainly inhabits secondary forests but also observed in primary forest areas.

The recorded trade during 1981-85 ranged from 3666 in 1982 to 13 206 in 1983. Most birds originated from Indonesia but a few were exported by Singapore and Malaysia. The species is not protected in Indonesia although capture and export are subject to licence.

It is restricted to a few quite small islands (total area of all five is about 28000 sq.km.) and is so popular in trade that it is likely that the present level of trade is having, or soon will have, a significant effect on wild populations. Recent evidence from Bacan suggests that populations are being reduced by legal trapping on that island.

DISTRIBUTION Endemic to Indonesia; found on Obi, Bacan, Halmahera, Ternate and Tidore in central and northern Maluku, (van Bemmelen, 1948), but not Morotai which Smiet (1985) thought difficult to explain as Morotai is not further away from Halmahera than other islands, where it does occur.

POPULATION Smiet (1985) described it as locally common throughout northern Maluku, especially in secondary forest. On one occasion a flock of about 50 individuals was seen. Milton (1988) found evidence that legal trapping on Bacan had significantly reduced the population of this species. Smiet did not observe this species during four days of observations on Ternate. Rozendaal (*in litt.*, 29 March 1987) stated that he had seen the species regularly in patches of primary forest at the base of the volcano Gamalama, although he was not certain whether this was a natural population or escaped birds. Rozendaal also observed the species frequently over primary forest on Bacan and Halmahera.

HABITAT AND ECOLOGY. Found in secondary forest, around clearings and along rivers, less common in primary forest (Smiet, 1985). Little recorded information on its habits. Generally seen in pairs or small groups flying above treetops or sitting in the topmost branches of tall trees (Forshaw and Cooper, 1978). Diet comprises seeds, fruits, nuts, berries and insects (Low, 1986a).

THREATS TO SURVIVAL The species is a popular pet and traded in large numbers, accounting, in 1983, for 15% of parrot exports from Maluku (Smiet, 1985). Milton (1988) found evidence that legal trapping was significantly reducing populations on Bacan. He suggested that a temporary but severe restriction on trade from this island should be considered.

INTERNATIONAL TRADE Although not rare in captivity this species has never been as popular as some of the other white cockatoos (Low, 1986a). Listed in CITES Appendix II in 1981.

Table 1. Minimum net imports of live *C. alba* reported to CITES.

	1981	1982	1983	1984	1985
Australia	-	-	6	-	-
Austria	-	14	-	-	47
Canada	-	47	57	172	126
Cayman Islands	-	-	-	-	1
China	-	24	-	-	-
Czechoslovakia	-	-	-	2	-
Denmark	-	1	90	67	61
El Salvador	-	-	-	2	-
France	32	-	94	127	189
Germany, F.R.	305	307	875	703	396
Greece	-	-	-	-	17
Guyana	-	-	-	-	2
Hong Kong	-	-	30	4	10
Italy	30	155	160	60	-
Japan	46	37	147	46	41
Korea, Rep.	-	-	-	8	-
Kuwait	-	-	2	4	-
Malaysia	-	-	110	180	40
Netherlands	-	-	-	2	86
Oman	-	-	-	1	-
Saudi Arabia	-	-	3	7	-
Singapore	460	-	-	-	-
South Africa	-	11	3	34	10
Spain	-	5	-	-	2
Sweden	-	53	11	144	197
Switzerland	-	14	36	20	27
Taiwan	-	-	30	133	200
Thailand	-	20	-	-	3
Trinidad & Tobago	-	-	-	1	-
UK	50	28	1116	169	430
USA	3953	2950	10436	10287	5467
USSR	-	-	-	-	22
TOTAL	4876	3666	13206	12193	7374

The main importers were the USA, the Federal Republic of Germany and the United Kingdom. The volume of trade in 1983 was larger than that reported in any of the other years, but substantial numbers appeared in trade in 1984 and 1985.

Most of the transactions summarized above, where Indonesia was not reported as the origin or exporter have probably been incorrectly reported. Very few of the birds in trade were reported to have been bred in captivity. The above data can be compared with the numbers reported by the Department of Nature Conservation to have been exported from Indonesia: 1981 - 4361, 1982 - 5593, 1983 - 6395, 1984 - 8698 (Indonesia CITES MA, 1986). Some further figures from

Cacatua alba

the same source are: 1984 - 7886, 1985 - 7164, 1986 - 7884 (Indonesia CITES MA, 1987). It is not known why there are two different figures for 1984. These figures show reasonable correlation with those reported to CITES in 1981 and 1982, however the number reported to CITES in 1983 is larger than that reported by the Department of Nature Conservation. For 1984 the number reported to CITES was higher than either figure reported by the Department of Nature Conservation.

In addition, records compiled by Balai Konservasi Sumber Daya Alam VIII for the period April 1983 through March 1985 (therefore only providing complete data for 1984) show the commercial harvest in Maluku of: 1983 - 4949, 1984 - 8500, 1985 - 1679; and the number of parrots of this species exported from Maluku as souvenirs (live pets) by individuals: 1983 - 257, 1984 - 501, 1985 - 5 (R. Milton, *in litt.*, 1986). Combining these two sets of figures provides an estimate of the number harvested, however this does not include birds traded within Maluku, as a permit is not required for such transactions.

The volume of trade in 1984 reported by the Department of Nature Conservation of 7886 or 8698 birds, and the estimate of the number harvested in that year of 9001, are both within the harvest quota of 10 250 set for that year (see below), but the total exports from Indonesia reported to CITES exceed the quota by over 1500 birds (9.5%). CITES data indicate that the 1985 quota was only marginally exceeded.

Table 2. Country of origin or export for exports of live *C. alba* exported to CITES.

	1981	1982	1983	1984	1985
Indonesia	4874	3485	13216	11987	7144
Countries without wild populations of <i>C. alba</i>					
Australia	-	-	-	-	1
Austria	-	-	-	-	1
Finland	-	-	-	-	1
Germany, F.R.	-	2	1	-	-
Malaysia	-	120	-	-	-
Netherlands Antilles	-	-	-	1	-
New Zealand	-	8	-	-	-
Philippines	2	1	-	-	-
Saudi Arabia	-	-	2	-	-
Singapore	-	53	20	213	232
Sri Lanka	-	-	-	-	1
Sweden	-	-	-	27	12
Taiwan	-	-	-	2	-
USA	-	-	-	9	-
Unknown	-	2	-	19	1

CONSERVATION MEASURES Not protected, however recent legislation requires permits to be obtained from the Director General of Forest Protection and Nature Conservation (PHPA), in order to legally catch, own, breed or transport non-protected wildlife species (Decree of the Minister of Forestry No. 66

Kpts-11/1983). Trade is monitored by the Directorate General of Forest Protection and Nature Conservation (PHPA), Directorate of Nature Conservation, Subdirectorates of Species Conservation (Bogor). Annual harvest quotas are set for each species (Milton and Marhadi, 1987). In 1984 the quota for this species was 10 250 (Anon., 1984a), in 1985 it was 7000 (Anon., 1985) and in 1987 it was 5600 (Anon. 1987a). No information has been provided explaining the basis for setting the quotas; apparently periodic population surveys are not carried out (Indonesia CITES MA, 1987; Milton and Marhadi, 1987).

CAPTIVE BREEDING First recorded breeding in captivity was in 1960. Although bred in a variety of countries the species is not produced in large numbers (Low, 1986a).

SULPHUR-CRESTED COCKATOO
GREATER SULPHUR-CRESTED COCKATOO
(except Australian population)

Recommended list: 2
[Possible problem]

Cacatua galerita (Latham, 1790)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS The species comprises four subspecies and occurs in Indonesia (Aru Islands, Western Papuan Islands, islands in Geelvink Bay and Irian Jaya); Papua New Guinea (including the D'Entrecasteaux and Louisiade Archipelagos, Trobriand and Woodlark Islands); northern, eastern and south-eastern Australia. It has also been introduced into New Zealand, Palau and various small islands in Maluku, Indonesia. In 1980/81 in the Aru Islands it was considered to be common only in primary forest. In 1983 it was adjudged fairly common on Salawati and Batanta (Western Papuan Islands) and in parts of western Irian Jaya, and occasionally recorded in south-east Irian Jaya. In Papua New Guinea it has apparently decreased in recent years, especially in disturbed areas; in 1978 it was listed as uncommon in the north-east. In New Zealand it is local and probably numbers less than 1000 individuals; in Palau the small introduced population was increasing in number and was causing considerable damage to native palms. Inhabits forests, savannahs and cultivated areas.

The recorded trade during 1981-85 ranged from a minimum of 239 in 1981 to a maximum of 387 in 1983. A few were exported by Australia but the majority originated in Indonesia. Many of the birds which originated in Indonesia were actually recorded as re-export trade, mainly from Singapore and Malaysia. In 1983 60 birds exported by Belgium were recorded as captive-bred although the species is rarely bred in captivity. The species has been protected in Indonesia since 1980 and commercial exports are not allowed in Papua New Guinea and Australia.

Despite the ban on commercial exports in all countries of origin, trade in this species is continuing, albeit in fairly small numbers. It is unlikely that the numbers recorded are affecting the species overall but, since trade in wild individuals is illegal, the unrecorded trade might be quite high and could be seriously affecting local populations.

DISTRIBUTION New Guinea, including most offshore islands, Aru Islands and northern and eastern Australia; introduced to New Zealand, the Palau Islands (Pacific Trust Territory) and to Ceram Laut and Goram Laut, Indonesia (Forshaw and Cooper, 1978). Introduced to Kai Kecil, Maluku in 1980 (Anon., 1981) and perhaps Manawoka and Goram also in Maluku, Indonesia earlier this century (van Bemmelen, 1948). Many subspecies have been described, but Forshaw and Cooper (1978) recognise four.

C. g. galerita Eastern and south-eastern Australia from Cape York Peninsula to King Island and Tasmania, and across to south-eastern South Australia; introduced to New Zealand (Forshaw and Cooper, 1978).

C. g. fitzroyi (Mathews) Distributed across northern Australia, including larger offshore islands, from the Fitzroy River, Western Australia, east to the Gulf of Carpentaria (Forshaw and Cooper, 1978).

C. g. triton (Temminck)

Indonesia Western Papuan Islands: recorded on Batanta (Greenway, 1966), Gebe (Mees, 1972), Misool (Mees, 1965), Salawati (Diamond et al., 1983) Kofiau, Gag, Mansuar (Diamond, 1986b) and Waigeo (Rothschild and Hartert,

1901; Rothschild, 1932); mainland Irian Jaya and the islands of Geelvink Bay (Rand and Gilliard, 1967). Introduced to Seram Laut, Goram Laut (Hartert, 1901a) Kai and perhaps Ambon (White and Bruce, 1986).

Palau Introduced to the Palau Islands (Pacific Trust Territory) after World War II and now found from Koror to Eil Malk (Pratt et al., 1987).

Papua New Guinea Throughout most of the country including the D'Entrecasteaux (Goodenough, Fergusson, Normanby) and Louisiade (Misima, Tagula, Rossel) Archipelagos (Coates, 1985), and islands in the Trobriand and Woodlark Groups (Forshaw and Cooper, 1978).

C. g. eleonora (Finsch) Restricted to Aru Islands, Indonesia (Mees, 1972).

POPULATION No overall estimate. Information on the status of populations is included where available.

General - New Guinea Ripley (1964) believed that the species had become less common and far more local in New Guinea than it had been on his previous visit 25 years earlier. Rand and Gilliard (1967) described it as fairly common in New Guinea in savannah country and lowland forest up to 1400 m. Forshaw (in Forshaw and Cooper, 1978) saw very few but was told by resident ornithologists that they were still common in remote areas.

Indonesia Diamond et al. (1983) found it to be quite common in the Kumawa and Wandammen Mountains and the islands of Yapen, Sulawati and Batanta, Irian Jaya. It was uncommon in Waigeo in 1986 (Diamond, 1986a). Bishop (1984) reported that it was occasionally seen in reserves in south-east Irian Jaya. Smiet (1985) found it to be uncommon in the Aru Islands except in the interior; it was reportedly most common on Pulau Baun and Pulau Kobroor where it was frequently observed in primary forest. The Department of Nature Conservation, Indonesia estimated the population in the Aru Islands to have been about 20 000 individuals based on a survey in 1984 (Indonesia CITES MA, 1986). Milton (1988) found the species uncommon on Warwar, Aru Islands, and stated that it had not recovered from former trapping.

New Zealand It is known to occur in two main colonies on North Island but probably numbers no more than 1000 birds (New Zealand Wildlife Service, in litt., 2 December 1985).

Palau Cockatoos were first recorded in Palau by Marshall (1949) and specifically identified in 1950 on two other islands by Hill (in Ripley, 1951). During the period 1976-79 it was widespread, but recorded as uncommon on Urukthapel and Eil Malk, and as rare on Babelthuap, Arakabesan and Koror. Their habit of eating hearts of palms has led to two species of palms being listed as endangered (Pratt et al., 1980). The population has been described as small but increasing (Pratt et al., 1987).

Papua New Guinea Common in 1948 throughout the forested lowlands of the Owen Stanley Range (Gilliard, 1950). In the eastern highlands the species was described as ubiquitous in undisturbed primary forest, although it was not found in areas with higher human population densities (Diamond, 1972). Uncommon above 500 m, and most often absent from disturbed areas in north-east Papua New Guinea (Beehler, 1978). Coates (1985) described it as having originally been fairly common but it was now rare or absent in some areas because of hunting pressure.

Cacatua galerita

HABITAT AND ECOLOGY. Inhabits forest and forest edge from sea level to 1550 m; often absent from disturbed areas in New Guinea (Beehler, 1978) although commonly found in cultivated areas in Australia. Usually found in pairs or small family parties during the breeding season, and at other times in flocks, sometimes comprising hundreds of birds. The birds found on New Guinea are reportedly more arboreal than those in eastern Australia. Largely sedentary, although it has been reported to move freely between offshore islands in some parts of its range. Diet consists of seeds, fruits, berries, nuts, flowers, leaf buds and insects and their larvae. Although troublesome pests of cereal-growing areas they are reported to eat the seeds of many weed pests. Nesting takes place in a hollow limb or hole in a tree; two to three eggs are laid which are incubated for approximately thirty days (Forshaw and Cooper, 1978). Milton (1988) reported that complaints of large degrading flocks of this species on Warmar, Aru Islands, were not substantiated by field observations.

THREATS TO SURVIVAL The extent of habitat loss and the resulting effects on populations of this species are largely unknown; however it seems unlikely that the cockatoos will be able to tolerate the combined pressures of habitat destruction and trapping for sale on a large scale (Low, 1984). *Cacatua galerita*, although now protected from commercial export throughout its range (see Conservation Measures), has been hunted and trapped in large numbers. Persistently hunted near major towns and villages in New Guinea (Forshaw and Cooper, 1978). The species has been extensively captured for the cage bird trade (Low, 1986a) and frequently shot for its meat (Gyldenstolpe, 1955) and feathers, as the yellow crest plumes are prized for decoration (Diamond, 1972). Despite its protected status the species reportedly remains a popular pet in Maluku, Indonesia and is still threatened by commercial trade. Illegal shipments are known to occur frequently and large numbers are confiscated by the wildlife police; 826 in 1981 alone (Smiet, 1985). Diamond (1979) stated that the harvest of cockatoos on Yapen, Biak and Aru, Indonesia may soon represent a threat to their populations. Reportedly subject to heavy hunting pressure on the Aru Islands (Anon., 1981). The species has been persecuted as a pest of grain crops in many areas (Low, 1986a).

Some birds are taken from the wild in New Zealand for the cage and aviary bird trade but most of the birds for sale are reportedly bred in captivity (New Zealand Wildlife Service, *in litt.*, 2 December 1985). In Palau birds are occasionally taken for pets (USA CITES MA, 1987).

INTERNATIONAL TRADE Commonly traded until exports from Australia were banned. *Cacatua galerita triton* has been fairly common in trade but has not usually been distinguished from the other subspecies (Low, 1986a). Large-scale, well-organised illegal trade has been reported to continue from Indonesia (Diamond, 1979); the volume of such trade is difficult to assess but it may still represent a significant drain on wild populations (Smiet, 1985). The species was listed in CITES Appendix II in 1981.

The volume of reported world trade therefore averaged 295 birds each year. The United States and Italy were the main importers although a large number of countries were involved (Table 1).

Table 2 shows that the vast majority of the birds reported to have originated in Australia were declared to have been personal items or to have been traded for zoological purposes. Most of the birds reported to have originated in Indonesia were actually recorded as re-export trade, often from Malaysia and Singapore. One notable exception was 120 birds reported by Italy to have been imported from Indonesia in 1984. Indonesia did not report any exports of this species during these years. Very few birds were reported to have originated in Papua New Guinea.

Table 1. Net imports of live *C. galerita* reported to CITES.

	1981	1982	1983	1984	1985
Anguilla	-	-	-	-	1
Belgium	18	-	-	-	-
Brazil	-	-	-	1	-
Canada	44	120	14	3	1
China	-	4	-	-	-
Czechoslovakia	2	-	-	-	-
Egypt	-	-	-	3	-
German D.R.	-	-	-	-	2
Germany, F.R.	-	10	23	1	3
Greece	-	-	-	1	5
France	1	-	-	-	-
Israel	-	-	-	2	-
Italy	-	2	49	140	128
Japan	-	1	-	-	20
Jordan	-	-	-	-	1
Korea, Rep.	-	-	-	10	-
Kuwait	-	-	-	1	-
Lebanon	1	-	-	-	-
Malta	-	2	-	3	3
Netherlands	-	-	-	-	5
New Zealand	-	7	-	14	16
Portugal	1	-	-	-	1
South Africa	20	-	-	15	-
Spain	-	-	-	-	3
Sri Lanka	-	6	-	-	-
Suriname	-	-	4	-	-
Sweden	-	-	-	2	-
Switzerland	1	2	-	1	-
Trinidad & Tobago	-	-	-	1	-
UK	4	3	44	4	6
USA	9	75	253	86	58
USSR	-	10	-	1	-
Yugoslavia	-	-	-	2	1
Unknown	138	101	-	-	-
TOTAL	239	343	387	252	254

Large numbers were reported to have originated in, or to have been exported without any other declared origin by, countries without wild populations of the species. In the case of Belgium, many of the exports were reported to have been bred in captivity; however a number of other countries, in particular Singapore and Malaysia, were reported to have exported or to have been the origin of large numbers of this species. Furthermore the the birds reportedly exported by Belgium in 1983 and 1984 should be treated with some suspicion as very few birds of this species are bred in captivity.

Cacatua galerita

Table 2. Reported countries of origin or export for exports of live *C. galerita* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>C. galerita</i>					
Australia	20	49	3	55	63
Indonesia	20	26	202	126	143
Pacific Islands	-	-	1	-	1
Papua New Guinea	4	-	1*	1	-
Countries without wild populations of <i>C. galerita</i>					
Belgium	50	52	89*	12*	-
Canada	-	-	1	-	-
Costa Rica	-	-	-	2	-
Germany, F.R.	-	2	-	-	2
Hong Kong	-	-	-	2	-
India	-	-	-	5	-
Japan	-	-	1	1	-
Malaysia	138	117	75	28	2
Malta	-	-	-	-	1
Netherlands	-	4*	4	-	-
New Zealand	10	10	3	-	-
Philippines	6	4	29	4	9
Portugal	-	-	-	1	-
Saudi Arabia	2	-	7	4	5
Singapore	-	100	1	43	21
Sweden	42	-	-	-	-
UAE	-	1	-	-	-
UK	-	-	-	1	-
USA	-	2	5	-	-
USSR	-	-	-	1	-
Venezuela	-	-	1	-	-
Unknown	-	18	36	15	24

* captive-bred

CONSERVATION MEASURES

Indonesia *C.g. triton* has been protected in Indonesia since 1970 under the Decree of the Minister of Agriculture No. 421/Kpts/Um/8/1970, and the whole species has been protected since 1978 under the Decree of the Minister of Agriculture No. 742/Kpts/Um/12/1978.

New Zealand Not protected from exploitation, however the commercial export of all parrot species is banned and the export of pet birds is strictly controlled (New Zealand Wildlife Service, *in litt.*, 2 December 1985).

Papua New Guinea A 'restricted' species, protected from commercial export under the Customs (Prohibited Exports) Regulations 1973 (Parker, 1981).

CAPTIVE BREEDING Breeding successes in Europe have not been numerous, possibly more have occurred in the United States. The species was first recorded to have been bred in captivity in 1915 in the United Kingdom. Small numbers have been bred since that time. The subspecies *triton* was not recorded to have been bred until 1968, either because it was not exported until that time or because it was not distinguished from the other subspecies (Low, 1986a).

TANIMBAR CORELLA
GOFFIN'S COCKATOO

Recommended list: 2
[Possible problem]

Cacatua goffini (Finsch, 1863)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Endemic to Indonesia. It is found in the Tanimbar group and has been recorded on Tual (Kai Islands) where it was introduced. In 1980-81 it was found to be common in Tanimbar; parties of up to 35 were observed and local people named it a serious pest in maize crops. It was not seen on Tual, however. Inhabits both primary and secondary forest.

The recorded trade during 1981-85 ranged from 1810 in 1981 to 14 218 in 1983, virtually all originating in Indonesia. The species is not protected in Indonesia although capture and export are subject to licence.

As the area of the Tanimbar group is only 5085 sq.km., it seems likely that the present level of trade must be depleting the populations of the species. Information is needed on the basis for setting the annual quotas and a population survey is urgently required.

DISTRIBUTION Endemic to the Tanimbar Islands, Indonesia (Smiet, 1985); introduced to Tual in the Kai Islands, Indonesia (White and Bruce, 1986). The occurrence of the species on Tual is based on two specimens caught in 1898 and 1899 (Hartert, 1901a), and its recent mention as a resident of the Kai Islands (Anon, 1981; Indonesia CITES MA, 1986).

POPULATION Smiet (1985) found it, in October 1981, to be widespread on the large island of Yamdena, but also common on smaller islands of the Tanimbar group. On Yamdena he saw flocks of up to 35 individuals and it was reported to be a serious pest in maize crops. Not observed by Smiet on Tual, Kai Islands in December 1980 or October 1981.

HABITAT AND ECOLOGY. Found in both secondary and primary forest (Smiet, 1985). Little is known about the habits of this species in the wild (Low, 1986a).

THREATS TO SURVIVAL It was rare in captivity before the 1970s and Low (1979) claimed that the appearance of large numbers in trade during the 1970s was the result of 'serious deforestation' in the Tanimbar Islands. However a visit in 1986 found that there had been no significant deforestation (F. Rozendaal, *in litt.*, 29 March 1987). Local exploitation seems to be minimal as Smiet (1985) reported that in Maluku it was only occasionally seen in captivity and traded in local markets; however, the level of trade has increased enormously since that time.

INTERNATIONAL TRADE Although not rare in captivity this species has never been as popular as some of the other white cockatoos (Low, 1986a). Listed in CITES Appendix II in 1981.

*Cacatua goffini*Table 1. Net imports of live *C. goffini* reported to CITES.

	1981	1982	1983	1984	1985
Australia	-	-	503	-	-
Austria	-	12	-	-	40
Belgium	-	-	-	65	-
Brazil	-	-	-	2	-
Canada	100	40	282	288	262
Cayman Islands	-	-	-	-	2
China	-	140	-	-	-
Cuba	4	-	-	-	-
Czechoslovakia	-	-	4	-1	-
Denmark	-	-	520	100	95
France	10	60	259	101	84
German D.R.	2	-	-	-	-
Germany, F.R.	473	486	1480	390	507
Greece	-	-	-	-	37
Guyana	-	-	-	-	2
Hong Kong	-	-	466	-	-
Italy	-	-	175	100	2
Japan	46	75	553	110	69
Jordan	-	-	-	3	7
Malaysia	-	-	-	1113	-
Netherlands	-	-	-	5	165
Netherlands Antilles	-	-	-	2	-
Saudi Arabia	-	-	-	-	3
Singapore	90	38	175	-	-
South Africa	-	-	4	106	150
Spain	-	20	-	17	-
Sweden	-	205	-	100	822
Switzerland	5	26	51	-	15
Taiwan	-	-	865	295	405
Thailand	-	-	214	-	-
UK	116	125	155	77	191
USA	964	4746	8512	8068	5666
USSR	-	4	-	2	-
Yugoslavia	-	-	-	-	1
TOTAL	1810	5977	14218	10945	8568

The main importers were the USA and the Federal Republic of Germany. The volume of trade in 1983 was larger than that reported in any of the other years.

Table 2. Reported countries of origin, or where no origin is given, the exporter of the reported transactions.

	1981	1982	1983	1984	1985
Indonesia	1710	5975	14184	10769	7678
Countries without wild populations of <i>C. goffini</i>					
Argentina	-	-	1	-	-
Australia	-	-	-	1	-
Belgium	-	4	-	-	-
Italy	-	10	-	-	-
Netherlands	-	-	2	2	-
Singapore	-	230	30	147	890
Sweden	100	-	-	40	80
USA	-	1	-	-	-
USSR	-	-	-	2	-
Unknown	10	-	8	5	2

Most of the transactions summarized in Table 2, where Indonesia was not reported as the origin or exporter have probably been incorrectly reported. Very few of the birds in trade were reported to have been bred in captivity. The above data can be compared with the numbers reported by the Department of Nature Conservation to have been exported from Indonesia: 1981 - 2901, 1982 - 3327, 1983 - 9233, 1984 - 9140 (Indonesia CITES MA, 1986) and those provided by the same department in 1987 of: 1984 - 7828, 1985 - 7314, 1986 - 8306. These figures show little correlation with those reported to CITES and there is no obvious explanation for this discrepancy. For 1984 the number reported to CITES was higher than either figure reported by the Department of Nature Conservation.

In addition, records compiled by Balai Konservasi Sumber Daya Alam VIII for the period April 1983 through March 1985 (therefore only providing complete data for 1984) show the commercial harvest in Maluku of: 1983 - 4040, 1984 - 8832, 1985 - 1045; and the number of parrots of this species exported from Maluku as souvenirs (live pets) by individuals: 1983 - 21, 1984 - 26, 1985 - 0 (R. Milton, *in litt.*, 1986). Combining these two sets of figures provides an estimate of the number harvested, however this does not include birds traded within Maluku, as a permit is not required for such transactions.

The volume of trade in 1984 reported by the Department of Nature Conservation of either 7828 or 9140 birds, and the estimate of the number harvested in that year of 8858, are both within the harvest quota of 13 500 set for that year (see below). In 1985 the reported trade was within the quota of 10 000 set for that year.

CONSERVATION MEASURES Not protected, however recent legislation requires permits to be obtained from the Director General of Forest Protection and Nature Conservation (PHPA), in order to legally catch, own, breed or transport non-protected wildlife species (Decree of the Minister of Forestry No. 66 Kpts-11/1983). Despite increased trade controls in recent years illegal trapping and export of protected species has been reported to continue (Petocz, 1984). Trade is monitored by the Directorate General of Forest

Cacatua goffini

Protection and Nature Conservation (PHPA), Directorate of Nature Conservation, Subdirectorates of Species Conservation (Bogor). Annual harvest quotas are set for each species (R. Milton, *in litt.*, 1986). In 1984 the quota for this species was 13 500 (Anon., 1984a) and in 1987 it was 7000 (Anon., 1987). No information has been provided explaining the basis for setting the quotas; apparently periodic surveys are not carried out (Indonesia CITES MA, 1987).

CAPTIVE BREEDING Low (1986a) stated that there has been little avicultural interest in this species as large scale export from Indonesia caused it to become inexpensive and numerous in trade. The first successful breeding in Europe was in the Netherlands in 1974 (Schulte, 1975), however few birds have been bred since then (Low, 1986a).

SALMON-CRESTED COCKATOORecommended list: 1
[Problem]*Cacatua moluccensis* (Gmelin, 1788)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Endemic to Indonesia. It occurs on Seram, Saparua and Haruku and was introduced to Ambon prior to 1934. In 1980-81 it was found to be locally common in primary forest in the interior of eastern Seram but was rare near habitation. It was not seen in western Seram or on Ambon but it was allegedly common in these areas until about 1970. A survey of Manusela National Park in 1987 found it scarce everywhere and absent from some areas. Early in the twentieth century it was apparently more common in coastal areas than in the interior. Mainly inhabits primary forest; its populations may have been affected by habitat destruction.

The recorded trade during 1981-85 ranged from 3096 in 1981 to 9639 in 1984, virtually all originating in Indonesia. The species is not protected in Indonesia but capture and export are subject to licence.

It seems likely that the present level of trade is having a detrimental effect on wild populations of this species. Information is needed on the basis for setting the quotas and a population survey is urgently required.

DISTRIBUTION Endemic to Indonesia on Seram, Saparua and Haruku (southern Maluku); possibly introduced to Ambon (van Bemmelen, 1948).

POPULATION Stresemann (1914) found that on Seram the species appeared to be common in coastal areas, but in the central mountains below 1000 m, he encountered only small numbers. In 1980-81 it was rarely seen in eastern Seram near human habitation although it was locally common in the interior. Reported to have been common on Ambon and in western Seram until the mid 1970s but it was not observed during extensive fieldwork in 1980-81 (Smiet, 1985). Furthermore a survey of Manusela National Park, Seram, in July-September 1987 found it scarce everywhere and absent from some areas of the park (Bowler, 1988). The Indonesian Department of Nature Conservation stated that a population survey was carried out in 1984 (Indonesia CITES MA, 1986).

HABITAT AND ECOLOGY. Observed in primary forest up to 900 m. In undisturbed forest, flocks of 10-16 birds were seen to gather for the night (Smiet, 1985). Food consists of seeds, nuts, including coconuts, berries, and insects and their larvae (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Exploitation pressure was thought to have caused serious population decline. A popular pet in Maluku, and traded in large numbers, accounting for 15% of parrot exports in 1983 (Smiet, 1985). The Indonesian Department of Nature Conservation stated that the harvest of this species was under control (Indonesia CITES MA, 1986); however the fact that the population appears to be declining and that the harvest is within the quotas set (see below), suggests that the quotas are too high. Clarification should be sought on how the quotas are determined. Considered a pest in coconut plantations (Forshaw and Cooper, 1978). Bowler (1988) reported that it had apparently declined in areas where habitat destruction was not yet a major problem.

Cacatua moluccensis

INTERNATIONAL TRADE Very popular in the pet trade (Low, 1986a). Listed in CITES Appendix II in 1981.

Table 1. Net imports of live *C. moluccensis* reported to CITES.

	1981	1982	1983	1984	1985
Australia	-	-	204	-	-
Austria	-	140	6	-	48
Barbados	-	-	-	10	-
Belgium	-	4	-	7	78
Brazil	-	-	-	2	-
Burma	-	-	-	1	-
Canada	18	87	146	124	258
Cayman Islands	-	-	-	-	7
China	-	-	2	-	-
Costa Rica	-	-	-	-	4
Czechoslovakia	-	-	-	4	-
Denmark	-	9	870	71	102
Ecuador	10	-	-	-	-
Egypt	-	-	-	-	2
France	25	147	122	101	155
German D.R.	2	-	-	-	-
Germany, F.R.	385	321	612	621	343
Greece	-	-	-	-	7
Haiti	-	-	1	-	-
Hong Kong	-	-	10	5	21
Hungary	2	-	-	-	-
Iraq	-	-	-	2	-
Israel	-	-	-	-	5
Italy	27	110	90	94	120
Japan	31	27	176	116	54
Korea, Rep.	-	-	-	7	1
Kuwait	30	-	-	6	-
Libya	-	-	-	-	5
Malaysia	-	-	73	186	-
Netherlands	-	-	-	-	109
Netherlands Antilles	-	-	-	-	1
Panama	-	-	-	-	1
Saudi Arabia	-	-	1	3	-
Singapore	310	22	-	-	-
South Africa	9	1	9	9	17
Spain	2	2	-	5	27
Sweden	-	28	-	60	174
Switzerland	19	25	29	38	25
Taiwan	-	-	98	-	-
Thailand	-	10	8	36	-
Tunisia	-	-	-	1	-
Turkey	-	-	-	-	20
UAE	-	-	-	1	2
UK	-	60	743	71	356
USA	2228	3809	6425	8058	6860
USSR	-	-	-	-	28
Unknown	-	406	-	-	-
TOTAL	3096	5208	9625	9639	8840

Table 2. Reported countries of origin, or where no origin is given, the exporter of the reported transactions.

	1981	1982	1983	1984	1985
Indonesia	3069	4801	9581	9542	8632
Countries without wild populations of <i>C. moluccensis</i>					
Belgium	19*	-	-	-	-
Germany, F.R.	-	1	1	-	2*
Hong Kong	-	-	3	-	-
Malaysia	-	410	16	20	-
Mexico	-	10	-	-	-
Norway	-	-	-	-	2*
Philippines	-	-	1	1	1
Saudi Arabia	-	-	2	-	1
Singapore	-	20	27	98	190
South Africa	-	-	-	-	2
Spain	-	-	-	1	-
Sweden	11	2	-	10	10
Taiwan	-	-	-	-	10
Thailand	-	-	-	4	-
USA	-	-	16	16	-
USSR	-	-	-	6*	-
Zimbabwe	-	-	1*	-	-
Unknown	4	3	16	24	9

* = captive bred

The main importers were the USA and the Federal Republic of Germany. The volume of trade in 1984 was larger than that reported in any of the other years (Table 1).

Most of the transactions summarised in Table 2, where Indonesia was not reported as the origin or exporter have probably been incorrectly reported. Very few of the birds were reported to have been bred in captivity.

The above data can be compared with the numbers reported by the Department of Nature Conservation to have been exported from Indonesia: 1981 - 2901, 1982 - 4958, 1983 - 6415, 1984 - 7655 (Indonesia CITES MA, 1986). Some further figures from the same source are: 1984 - 7398; 1985 - 7525; 1986 - 7360 (Indonesia CITES MA, 1987). It is not known why there are two different figures for 1984. These figures show reasonable correlation with those reported to CITES for 1981 and 1982, however the number reported to CITES for 1983 is larger than that reported by the Department of Nature Conservation. For 1984 the number reported to CITES was lower than either reported by the Department of Nature Conservation.

In addition, records compiled by Balai Konservasi Sumber Daya Alam VIII for the period April 1983 through March 1985 (therefore only providing complete data for 1984) show the commercial harvest in Maluku of: 1983 - 3724, 1984 - 6119, 1985 - 2888; and the number of parrots of this species exported from Maluku as souvenirs (live pets) by individuals: 1983 - 105, 1984 - 181, 1985 - 39 (R. Milton, *in litt.*, 1986). Combining these two sets of figures provides an estimate of the number harvested, although this does not include birds traded within Maluku, as a permit is not required for such transactions.

Cacatua moluccensis

The volume of trade in 1984 reported by the Department of Nature Conservation of 7360 or 7655 birds, and the estimate of the number harvested in that year of 6300, are both within the harvest quota of 10 250 set for that year (see below). The trade reported to CITES in 1985 exceeded the quota for that year by over 1300, but other records of exports from Indonesia for that year indicate that the quota may have been only marginally exceeded.

CONSERVATION MEASURES Not protected, however recent legislation requires permits to be obtained from the Director General of Forest Protection and Nature Conservation (PHPA), in order to legally catch, own, breed or transport non-protected wildlife species (Decree of the Minister of Forestry No. 66 Kpts-11/1983). Trade is monitored by the Directorate General of Forest Protection and Nature Conservation (PHPA), Directorate of Nature Conservation, Subdirectorate of Species Conservation (Bogor). Annual harvest quotas are set for each species (Milton and Marhadi, 1987). In 1984 the quota for this species was 10 250 (Anon., 1984a), in 1985 it was 7500 (Anon., 1985) and in 1987 it was 5000 (Anon., 1987a). No information has been provided explaining the basis for setting the quotas; apparently periodic population surveys are not carried out (Indonesia CITES MA, 1987; Milton and Marhadi, 1987).

CAPTIVE BREEDING First bred in captivity in 1951 in San Diego Zoo; although possibly not bred again until 1975, the species has been produced in small numbers in a number of countries (Low, 1986a).

BARE-EYED CORELLA
(except Australian population)
Cacatua sanguinea (Gould, 1843)

Recommended list: 2
[Possible problem]

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS The taxonomy and nomenclature of the corellas has been the subject of a great deal of discussion recently, at both species and subspecies level. Forshaw and Cooper (1978) treated *C. sanguinea* as comprising two subspecies, one of which, *normantoni*, occurred in Queensland, Australia, and Irian Jaya, Indonesia. Mees (1982) suggested that the form in New Guinea was subspecifically distinct and gave it the name *transfreta*. This form occurs only in the extreme south-east of Irian Jaya and the extreme south-west of Papua New Guinea. Its exact range is not known but it is found along the coastal strip between 138°E and 141°E. In 1983 it was found to be locally common in two reserves within this area. Inhabits grasslands, ricefields and *Melaleuca* savannas.

The recorded trade in *C. sanguinea* during 1981-85 ranged from 60 in 1983 to 442 in 1985. Most originated in Indonesia but a few were apparently from Australia, including 50 exported from Malaysia to Singapore. The species is not protected in Indonesia although capture and export are subject to licence.

The present level of trade is unlikely to affect the species overall but the very localized population in Irian Jaya and Papua New Guinea could be at risk.

DISTRIBUTION [Note: There has been much debate in recent years about the taxonomic status of the corellas. The arrangement followed for many years was the recognition of two species, *Cacatua tenuirostris* and *Cacatua sanguinea* based largely on bill size, the former being the longer-billed. The birds from southern New Guinea were treated as a subspecies of the latter (*C. s. normantoni*) (Forshaw and Cooper, 1978). Various authors questioned this arrangement because of the similarity, disregarding bill size, of birds from south-western Australia, treated as *C. t. pastinator*, to those referred to as the Little Corella (*C. sanguinea*). Lendon (1951) suggested that *pastinator* should be treated as a separate species and Mees (1961), after examining specimens of both races, decided that *sanguinea* should be reduced to a subspecies of *tenuirostris*. A number of arrangements were suggested after that time including a return to the standard nomenclature of two species *C. tenuirostris* and *C. sanguinea* with *pastinator* as a subspecies of the former (Condon, 1975); however opinion generally began to favour the treatment of *pastinator* and *sanguinea* as conspecific. After a thorough examination of all available museum specimens and studies of living populations, Schodde et al., (1979) concluded that *C. tenuirostris* was the most distinct of the corellas and should therefore be maintained as a separate species, while all other forms should be included in *C. pastinator*. They argued that the similarity in bill size between the birds from southeastern and southwestern Australia, formerly treated as *C. t. tenuirostris* and *C. t. pastinator* respectively, was a characteristic which had evolved convergently as an adaptation to feeding by digging. They implied that the birds from southern New Guinea were most similar to *C. pastinator normantoni* which they described as inhabiting Cape York Peninsula, northern Queensland. More recently Mees (1982) compared specimens from New Guinea with specimens of *C. p. normantoni* and reached the conclusion that there were distinct differences between them and declared the New Guinea specimens subspecifically distinct under the name *C. p. transfreta*. Ford (1985) recently carried out further research into the taxonomy of the corellas the results of which

Cacatua sanguinea

strongly disputed the conspecificity of *C. pastinator* and *C. sanguinea* and cast some doubt on the recognition of *transfreta* as a distinct subspecies. Ford (1985) concluded that genetic data are required for further evaluation of the situation.]

The species *C. sanguinea sensu* Ford, occurs in western, northern and the interior of eastern Australia; and in southern Irian Jaya and Papua New Guinea.

C. s. transfreta Mees, 1982

Indonesia Apparently restricted to the Merauke district, Irian Jaya (Mees, 1982). Its exact range is not known but it apparently occurs along the coastal strip between 138°E and 141°E (Bishop, 1984). First recorded by van Bemmelen (1958) who suggested that it may have been introduced from Australia, although Hoogerwerf (1964) thought that the settlement of the species in New Guinea was not recent and that its late discovery was probably due to its erratic occurrence and confusion with *C. galerita*.

Papua New Guinea Occurs in the Bensbach River area in the extreme south-west, near the border of Irian Jaya (Coates, 1985).

POPULATION

Indonesia No estimate of the size of the population inhabiting Irian Jaya is known. Hoogerwerf (1964) reported that, at times, the species was observed daily in ricefields near Kurik, Merauke district, occurring periodically in large flocks in cultivated areas and along the Kumbe river. There were however times when the species was not observed for long periods. The months when the species was apparently absent did not seem to be linked to the availability of food. Hoogerwerf examined a large number of specimens, none of which seemed to be in breeding condition, and concluded that they could possibly be migrants or stragglers from Australia. Bishop (1984) reported that the species was locally common in the Pulau Kimaam and Wasur reserves in south-east Irian Jaya.

Papua New Guinea Apparently present throughout the year (Coates, 1985) but no other information is available.

HABITAT AND ECOLOGY. The southern New Guinea population inhabits localised grasslands and *Melaleuca* savannas (Bishop, 1984); also found in ricefields and along the Kumbe river (Hoogerwerf, 1964). A ground feeder, often found in large flocks, diet consists of seeds, nuts, fruits, berries, flowers, roots and insects and their larvae (Forshaw and Cooper, 1978). In southern New Guinea, Hoogerwerf (1964) observed them feeding on seed-bearing plants near the Kumbe river with Red-winged Parrots (*Aprosmictus erythropterus*) and feeding in ricefields, often mixed with large numbers of Greater Sulphur-crested Cockatoos (*Cacatua galerita*). The species is often referred to as a pest of rice and taro crops in Irian Jaya (Bishop, 1984). In Australia the breeding season is reportedly variable and seems to be strongly influenced by climatic conditions. Three or four eggs are laid, often in a hollow limb or a hole in a tree but also in crevices in cliffs or occasionally in the broken tops of large termite mounds (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Systematically trapped for the export bird trade (Bishop, 1984) and shot as a pest of rice crops (Hoogerwerf, 1964). No information is available describing the extent of habitat destruction in southern New Guinea. The harvest of this species was reported to be under control (Indonesia CITES MA, 1986).

INTERNATIONAL TRADE Commercial export from Australia and Papua New Guinea has been banned (see below), therefore Indonesia is the only legal source country. Listed in CITES Appendix II in 1981.

Table 1. Net imports of live *C. sanguinea* reported to CITES. The totals provide estimates of the minimum volume of world trade for each year.

	1981	1982	1983	1984	1985
Austria	-	-	-	1 body	-
Canada	-	-	-	-	24
Denmark	-	-	-	-	7
France	-	-	-	4	-
German D.R.	-	-	-	-	2
Germany, F.R.	36	25	-	-	118
Greece	-	-	-	-	2
Hungary	4	-	-	-	-
Israel	-	-	-	1	-
Malaysia	-	70	-	75	-
Netherlands	-	-	-	-	5
Netherlands Antilles	-	-	-	3	-
New Zealand	1	-	-	-	-
Saudi Arabia	-	-	-	3	-
Singapore	-	-	50	-	20
South Africa	-	6	-	-	-
Spain	-	-	-	-	3
Sweden	-	2	-	-	25
Switzerland	-	3	-	-	-
Taiwan	-	-	-	-	5
Thailand	-	20	-	9	-
Turkey	-	-	-	-	2
UK	-	1	4*	-	44
USA	255	209	6	106	185
	-	-	-	+ 2 *	-
TOTAL	295	316	60	203	442
				+ 1 body	

It can be estimated that at least 1317 birds were in trade during the years 1981 to 1985. The United States imported the majority of the birds in trade in all years except in 1983.

The majority of the birds recorded in trade in 1981 to 1984 were reported to have originated in Indonesia. A few birds were recorded in trade in 1981 and 1982 which had reportedly originated in Australia. Most of these were reported to have been personal items or to have been in trade for zoological purposes. However, in 1983 Malaysia reported the commercial export to Singapore of 50 live specimens of Australian origin. With the exception of this transaction the majority of reported trade was apparently legitimate, including a small number of birds stated to have been bred in captivity. The above figures for exports from Indonesia can be compared with exports recorded by the Indonesian Department of Nature Conservation of: 1981 - 209, 1982 - 515, 1983 - 0, 1984 - 196, 1985 - 392, 1986 - 75 (Indonesia CITES MA, 1986, 1987). These data show approximate correlation with the relative volumes from year to year of those reported to CITES; however there are significant discrepancies between the exact values of the two sets of figures in some years which cannot be explained. The volume of trade reported in this species

Cacatua sanguinea

is quite small when compared with some of the other Cockatoos, such as *C. sulphurea*, *C. moluccensis* or *C. goffini*; however its range in southern New Guinea is restricted and Indonesia is the only legal source for commercial trade.

Table 2. Reported countries of origin or export for exports of live *C. sanguinea* reported to CITES. When specimens have been exported to an intermediate country and subsequently re-exported, the minimum net trade was calculated, ensuring that numbers were only recorded once.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>C. sanguinea</i>					
Australia	5	11	51	1 + 1 body	12*
Indonesia	281	316	5	196	411
Countries without wild populations of <i>C. sanguinea</i>					
Austria	-	-	-	1 body	-
Belgium	-	-	-	-	2*
Germany, F.R.	-	-	-	2*	-
Italy	-	3	-	-	-
Netherlands	-	-	4*	3*	-
New Zealand	6	6	-	-	-
Singapore	-	-	-	-	45
South Africa	-	-	-	-	17*
Sweden	-	-	-	-	20
Thailand	4*	-	-	-	-
Unknown	-	-	-	1	2

* captive-bred

CONSERVATION MEASURES

Australia Fully protected.

Indonesia The species is not protected but recent legislation requires permits to be obtained from the Director General of Forest Protection and Nature Conservation (PHPA), in order to legally catch, own, breed, or transport non-protected wildlife species (Decree of the Minister of Forestry No. 66 Kpts-11/1983). Quotas are set for the legal harvest of parrots; in 1984, 1985 and 1987 the quota set for this species was 500 birds (Anon. 1984a; Anon., 1985; Anon., 1987a).

Papua New Guinea Commercial export is prohibited under the Customs (Prohibited Exports) Regulations 1973 (Parker, 1981).

CAPTIVE BREEDING First bred in captivity in London Zoo in 1907. Reported to have been bred in a number of countries since then although not in particularly large numbers and it remains quite uncommon in aviculture (Low, 1986a).

YELLOW-CRESTED COCKATOO

Recommended list: 2
[Possible problem]

Cacatua sulphurea (Gmelin, 1788)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Endemic to Indonesia. Four subspecies, two with very restricted ranges:- *sulphurea*: Sulawesi, Butung, Muna, Madu, Kalaotoa, Kalao, Tanahjampea, Kayuadi, Tukangbesi; *citrinocristata*: Sumba; *parvula*: Timor, Semau, Flores, Sumbawa, Lombok, Penida, Bali; *abbotti*: Salembu Besar. The species has been introduced and is established in small numbers in Hong Kong and Singapore. In 1980 it was found to be widespread in small numbers on Sulawesi and on Butung it was reported in 1951 that numbers had apparently not diminished since 1828, despite the frequency of trapping. It was recently reported that it still occurs in reasonably good numbers on Sumba. On Bali it occurs irregularly in large numbers in irruptions from the east. Inhabits open woodland, scrub and cultivated areas.

The recorded trade during 1981-85 ranged from 3540 in 1981 to 7884 in 1984, virtually all recorded as originating in Indonesia. The species is not protected in Indonesia although capture and export are subject to licence.

Since it is not a true forest species, it is unlikely that the widespread loss of forests is causing the species to decline. The present level of trade is not likely to affect the species overall but could seriously affect individual subspecies or local populations if the capture is restricted to small areas.

DISTRIBUTION Endemic to Indonesia, on Sulawesi, Sunda Islands and islands in the Flores Sea and Java Sea (Forshaw and Cooper, 1978). Introduced in Singapore and Hong Kong (Long, 1981). Four subspecies are recognised following White and Bruce (1986).

C. s. sulphurea (Gmelin) (includes *djampeana* (Hartert)) Sulawesi (Watling, 1983), Butung and Muna (Stresemann, 1939-1941), Tanahjampea, Kalao and Kalaotoa, Madu, Kayuadi and Tukangbesi (White and Bruce, 1986).

C. s. abbotti Oberholser Salembu Besar in the Java Sea (Forshaw and Cooper, 1978).

C. s. parvula (Bonaparte) (includes *occidentalis* (Hartert)), Penida, Lombok, Sumbawa, Komodo, Padar, Rinca, Flores (Rensch, 1931), Pantar, Alor (White and Bruce, 1986). Occurs irregularly in large numbers on Bali in irruptions from the east (Ash, 1984). Timor (Mayr, 1944) and Semau (Forshaw and Cooper, 1978). Verheijen (1976) stated that although he did not observe it, the species certainly occurred on Roti; however there is no definite record to confirm this.

C. s. citrinocristata (Fraser) Sumba (Mayr, 1944).

Introductions Established and breeding in small numbers in Hong Kong (Chalmers, 1986). Webster (1975) considered two races to be present in Hong Kong; *C. s. sulphurea* and *C. s. citrinocristata*.

Rowley (in Forshaw and Cooper, 1978) reported small parties of Lesser Sulphur-crested Cockatoos in the Singapore Botanic Gardens, Singapore where they appeared to be established.

Cacatua sulphurea

POPULATION Heinrich (in Stresemann, 1939-1941) described the species as widespread but unevenly distributed in Sulawesi; it was common in the montane area between Maros and Watampone and west of the Latimodjong Mountains but elsewhere scarce if not altogether absent. On Butung the species was thought not to have declined since 1828 despite frequent trapping for the cage bird trade (van Bemmelen and Voous, 1951). Rensch (1931) found it common on Lombok, Sumbawa and Flores. Doherty (1891) on Sumba found it 'so numerous that I have seen the trees white with them'. Kendall (1979) observed a number of individuals of the subspecies *citrinocristata* during two days bird-watching on Sumba, and Bruce (in Low, 1984) reported that a recent survey had shown that all of the parrot species which occurred on Sumba survived in reasonably good numbers in selected localities of suitable habitat. No information from other parts of the species range.

HABITAT AND ECOLOGY. In Sulawesi it was found to inhabit open woodland, cultivated fields and forest edges on the humid coastal plains and in the low hill-country up to about 500 m; rarely found in the forest interior but often seen in coconut palms around villages (Heinrich, in Stresemann, 1939-1941). On Lombok, Sumbawa and Flores it was common in forests and agricultural land up to 800 m and less common up to 1200 m (Rensch, 1931). Generally seen in pairs or small flocks, but larger numbers may congregate to feed. They reportedly feed mainly in the treetops; diet consists of seeds, nuts, berries, fruits and probably blossoms (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Habitat loss and trade are probably serious threats to this species (Low, 1984). Bird trapping was observed in 1978 on Sumba; this, together with deforestation and soil erosion were described as serious threats to the species on the island (Kendall, 1979). Watling (1983) reported that the species was a popular cage bird in the towns on Sulawesi.

INTERNATIONAL TRADE For many years this was the most freely available of the cockatoos and it was traded in large numbers. In Europe, it was inexpensive until the mid 1970s and until that time imports catered largely for the pet trade, although more recently there has been greater avicultural interest in the species. The most distinctive subspecies, *C. s. citrinocristata* (Citron-crested cockatoo), is normally distinguished in trade (Low, 1986a). The species was listed in CITES Appendix II in 1981.

Table 1. Net imports of live *C. sulphurea* reported to CITES.

	1981	1982	1983	1984	1985
Austria	-	11	-	-	112
Belgium	-	-	-	8	35
Brazil	-	-	-	1	3
Canada	14	55	72	126	171
Cayman Islands	-	-	-	-	2
China	-	44	-	-	-
Cuba	4	-	-	-	-
Czechoslovakia	-	-	-	36	-
Denmark	-	8	18	41	158
France	35	21	186	61	161
German D.R.	2	2	-	-	-
Germany, F.R.	188	668	1153	1026	780
Hong Kong	-	-	-	5	30
Israel	-	-	-	-	1
Italy	20	50	50	90	-
Japan	135	191	246	176	327
Jordan	-	-	-	2	2
Korea, Rep. of	-	-	-	15	-
Kuwait	-	-	5	14	-
Lebanon	-	-	-	2	-
Libya	-	-	-	-	2
Malaysia	-	-	650	265	-
Netherlands	-	-	-	8	179
Netherlands Antilles	-	-	-	1	-
Portugal	-	-	-	-	9
Saudi Arabia	-	-	1	14	3
Singapore	81	371	-	-	-
South Africa	26	-	38	56	17
Spain	-	5	6	5	13
Sri Lanka	-	-	-	1	-
Swaziland	-	-	5	-	-
Sweden	20	137	122	68	495
Switzerland	62	58	57	81	132
Taiwan	10	-	80	-	107
Thailand	-	-	18	185	-
Trinidad & Tobago	-	-	-	1	-
Turkey	-	-	-	-	14
UAE	-	1	-	-	23
UK	78	97	400	200	655
USA	2865	2729	3307	5323	2398
USSR	-	-	1	-	-
Yugoslavia	-	-	-	1	-
TOTAL	3540	4448	6415	7884	5860

The United States and the Federal Republic of Germany were the main importers over this period. The largest volume of trade was recorded for 1984, however no significant trend is apparent.

Cacatua sulphurea

Table 2. Reported country of origin, or where no origin is given, the exporter.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>C. sulphurea</i>					
Indonesia	3495	4284	6447	7681	5199
Countries without wild populations of <i>C. sulphurea</i>					
Australia	-	1	-	1	-
Belgium	63*	22*	-	1	-
German D.R.	-	-	1*	-	-
Germany, F.R.	-	-	3	1	-
Hong Kong	-	-	2 (1*)	-	-
India	-	-	-	7	-
Japan	-	4	-	-	-
Malaysia	-	113	-	20	-
Netherlands	-	-	-	4*	-
Norway	-	-	-	1	-
Philippines	1	1	38	-	-
Saudi Arabia	-	-	3	-	-
Singapore	4	37	177	206	656
South Africa	-	-	3	-	3
Spain	-	-	-	1	-
Sudan	-	-	-	1	-
Sweden	10	-	-	50	30
Taiwan	-	-	-	2	-
UAE	-	-	1	-	-
UK	-	1*	1	-	-
USA	-	-	-	20	-
Unknown	-	28	2	7	9

* captive-bred

The above data can be compared with the numbers reported by the Department of Nature Conservation to have been exported from Indonesia: 1981 - 1965, 1982 - 2562, 1983 - 2986, 1984 - 3990 (Indonesia MA, 1986). These figures show little correlation with those reported to CITES. The differences between the two sets of figures are difficult to explain. For 1981, 1982 and 1984 there is no obvious reason for the discrepancy. For 1983 the estimate, from CITES data, of the number of birds originating in Indonesia includes about 800 individuals reported to have been re-exported by Singapore which may not have left Indonesia in that year. However, even if such transactions are excluded, the number of birds of this species reported to CITES to have been exported from Indonesia in 1983 is far in excess of the number reported by the Department of Nature Conservation to have been exported in that year.

The volume of reported trade in 1984 of 3990 birds is well within the total quota of 13 125 set for that year (see below). The exact source of the birds in trade is unknown, so the level of trade affecting individual populations cannot be assessed.

CONSERVATION MEASURES

Indonesia Not protected, however recent legislation requires permits to be obtained from the Director General of Forest Protection and Nature Conservation (PHPA), in order to legally catch, own, breed or transport non-protected wildlife species (Decree of the Minister of Forestry No. 66 Kpts-11/1983). Trade is monitored by the Directorate General of Forest Protection and Nature Conservation (PHPA), Directorate of Nature Conservation, Subdirectorates of Species Conservation (Bogor) (Petocz, 1984). Annual harvest quotas are set for each species (R. Milton, *in litt.*, 1986) and in this case separate quotas have been set for *C. s. citrinocristata* which is restricted to Sumba. No information has been provided explaining the basis for setting the quotas; apparently periodic population surveys are not carried out (Indonesia CITES MA, 1987; Milton and Marhadi, 1987).

Table 3. Quotas set for exports of *Cacatua sulphurea* from Indonesia, divided by region.

	1984	1985	1987
Sulsel	4500	1250	625
Sultra	2750	2750	1100
NTT	2250	1500	550
NTB	625	500	250
Sulteng	-	2000	800
TOTAL	10125	8000	3325
<i>C. s. citrinocristata</i>			
Sumba	3000	2000	600

Source: (Anon., 1984a; Anon., 1985; Anon., 1987a).

CAPTIVE BREEDING Successfully bred in a number of countries although not produced in large numbers (Low, 1986a).

LITTLE RED LORIKEET
FAIRY LORIKEET

Recommended list: 3
[No problem]

Charmosyna pulchella G.R. Gray, 1859

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS The species comprises two subspecies and is restricted to New Guinea, occurring widely in the mountains of both Irian Jaya and Papua New Guinea. It has been described as uncommon or locally rare overall, but it is easily overlooked and has been regarded as common in north-east and south-east Papua New Guinea. Inhabits forests. It is not protected in Indonesia but capture and export are regulated by a licensing system. No commercial exports are allowed from Papua New Guinea.

The recorded trade during 1981-85 varied from 348 in 1984 to 30 in 1982. Virtually all originated in Indonesia.

Given its wide range and that it is probably not uncommon, it is likely that the present level of trade does not pose a threat to the species.

DISTRIBUTION New Guinea, excluding adjacent islands (Forshaw and Cooper, 1978)

C. p. pulchella

Indonesia Distributed from the Vogelkop in the west of Irian Jaya, eastwards throughout most of the mountains of New Guinea, across the border into Papua (Forshaw and Cooper, 1978; Rand and Gilliard, 1967).

Papua New Guinea Found throughout the central mountains from south-east Papua and the Huon Peninsula westward across the border into Irian Jaya (Forshaw and Cooper, 1978).

C. p. rothschildi Restricted to the Cyclops mountains and the northern slopes of mountains above the Idenburg River in north-east Irian Jaya (Forshaw and Cooper, 1978).

POPULATION Little solid information is available. Rand and Gilliard (1967) said it was locally rare in mid-mountain forests. However, Forshaw and Cooper (1978) quote Donaghey (*in litt.*, 1970) as pointing out that the species is easily overlooked unless seen feeding in a tree; so it may not be rare.

Indonesia Rand and Gilliard (1967) said that scores were present in small flocks on the slopes above the Idenburg River, north-east Irian Jaya.

Papua New Guinea Gilliard (1950) reported that the species was common in the canopy of original subtropical forest in south-east Papua. In the Eastern Highlands, Diamond (1972) said it was sparsely distributed in hill forest along the slopes between 600 m and 1800 m. Beehler (1978) found that it was common in the middle altitudes of its range in north-east Papua. More recently, Coates (1985) described it as fairly common to scarce and locally abundant.

HABITAT AND ECOLOGY. This little lory reaches about 18 cm in length (bill tip to tail tip). It is very much a species of mountain forests, between 600 m and 2200 m (Diamond, 1972; Beehler, 1978), although specimens have been recorded from near sea level in Irian Jaya (Rand, 1942, quoted in Forshaw and

Charmosyna pulchella

Cooper, 1978). It has been seen in pairs, small parties and large feeding flocks (Rand and Gilliard, 1967; Forshaw and Cooper, 1978). The food comprises pollen, nectar and flowers and in captivity it takes fruit and perhaps insectivore mixture (Low, 1977).

Little information is available about breeding. Forshaw and Cooper (1978) quoted Greenway (1935), who collected specimens in January on Mt Misim, Territory of New Guinea, including males with enlarged testes and a female with egg in the oviduct. Greenway concluded that the breeding season was late December and January. In the Snow Mountains, Irian Jaya, females have been reported as laying in April (Rand, 1942, quoted in Forshaw and Cooper, 1978). In captivity the species is said always to lay two eggs in a clutch, incubation takes 25 days and is shared by both sexes (Low, 1986a).

THREATS TO SURVIVAL In his study of the Mamberamo region, northern Irian Jaya, where Diamond (1979) recorded this species, he stated that the commercial bird trade appeared to be the major threat to the fauna there.

INTERNATIONAL TRADE Net world imports between 1981 and 1985, according to CITES annual report data, varied between 348 birds in 1984 and 30 in 1982, nearly all from Indonesia. However, the Indonesian Government indicated trade from Indonesia at 305 in 1981, 275 in 1982 and 321 in 1984 (Indonesia CITES MA, 1986).

Table 1. Minimum net imports of *C. pulchella* reported to CITES

	1981	1982	1983	1984	1985
Denmark	-	-	-	-	15
German D.R.	-	-	-	2	-
Germany, F.R.	115	-	16	105	-
Hong Kong	10	20	-	-	-
Italy	-	-	-	15	-
Japan	-	-	-	60	-
Malaysia	-	-	-	70	50
Netherlands	-	-	-	10	5
Singapore	170	-	-	-	15
Spain	-	-	-	6	-
Switzerland	-	10	10	10	-
Thailand	-	-	40	30	-
USA	10	-	10	25	20
TOTAL	305	30	76	348	90

Table 2. Countries of origin of imports reported

	1981	1982	1983	1984	1985
Indonesia	305	30	66	346	90
Papua New Guinea	-	-	10	-	-
Unknown	-	-	-	2	-

Charmosyna pulchella

CONSERVATION MEASURES In Indonesia an export quota system is in operation, allowing 1000 specimens from Irian Jaya in 1984, 2000 in 1985 and 150 in 1987 (Anon., 1984a; Anon., 1985; Anon. 1987a). In Papua New Guinea, export of vertebrate species is allowed only to approved overseas institutions for scientific and zoological purposes (Parker, 1981).

CAPTIVE BREEDING This species seldom breeds in captivity; with the exception of a few specimens in private collections in the early part of the present century it was not known in aviculture before the early 1970s (Low, 1986a).

BURROWING PARROT

Recommended list: 2
[Possible problem]

Cyanoliseus patagonus (Vieillot, 1817)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A monotypic genus, confined to Argentina, Chile and possibly Uruguay. Two subspecies occur in Argentina and a third in Chile. The latter is now severely reduced in range and numbers to a total population of less than 3000, having formerly been one of the most numerous birds in central Chile. The Argentinian races are both very common and may still be seen in huge flocks, although populations have declined considerably. This parrot inhabits open, shrubby country, where it feeds chiefly on the ground, and is a serious agricultural pest. It nests colonially in cliffs, where there has long been a tradition of collecting the chicks for food. Persecution as a crop pest is also intense, and collection for the pet trade has recently increased. Breeds readily in captivity.

Minimum net imports reported to CITES in the years 1981 to 1985 varied between 4043 and 7260. Almost all the exports were reported as having originated in Argentina, although there were ten birds reported to have been exported from Chile, presumably *C. p. byroni*. The Chilean race is totally protected, but those in Argentina are listed as harmful.

The Argentinian races can undoubtedly sustain substantial collection for the pet trade. Such exploitation is apparently far less significant a threat to populations than the widespread persecution of the species as a pest and for food. Current levels of trade are probably not excessive, but the total offtake and kill should be monitored, along with the population size, as the colonial nesting system makes this species particularly vulnerable to over-persecution, as happened with the Chilean race. The latter is threatened, protected in its country of origin, and should not be in trade.

DISTRIBUTION Argentina and Chile, possibly migrating rarely to Uruguay in winter. Three subspecies have been recognised:

C. p. patagonus (Vieillot)

Argentina Central and southern areas, from Santa Cruz, Chubut, Rio Negro, Neuquen, La Pampa, Buenos Aires, south and central San Luis and Mendoza (Darrieu, 1980; Bucher and Rinaldi, 1986); in winter it migrates northwards on the Atlantic coast, occasionally as far as Entre Rios (Nores et al., 1983). Ridgely (1982) stated that there were few recent records from most of Buenos Aires province or Entre Rios.

Uruguay It was said by Gore and Gepp (1978) to be a rare and irregular winter visitor to the west of Uruguay. A specimen was collected at Arroyo Limitas, Dpto. de Colonia on 29 June 1977 (Cuello, 1985).

C. p. andinus Dabbene and Lillo

Argentina North-western areas, from the south of Salta, Tucuman, Catamarca, La Rioja, San Juan, north and central Mendoza and north San Luis. The most southerly record is from Cmte. Salas in Mendoza (Darrieu, 1980; Bucher and Rinaldi, 1986). Nores et al. (1983) record another subspecies, *C. p. conlara*, which they say occurs in the north of San Luis and adjacent zones of Cordoba.

Cyanoliseus patagonus

C. p. byroni (J.E. Gray)

Chile Formerly widespread and fairly abundant in central Chile, from Aconcagua to Valdivia (Johnson, 1967), but now restricted to the cordilleras of Colchagua and Curico (Darrieu, 1980).

POPULATION Apparently declining over much of its range. the subspecies *byroni* has reportedly declined the most; the nominate form is most numerous but now declining the most rapidly (Ridgely, 1982).

Argentina Numbers of *C. p. andinus* are reported to be essentially stable, but it was thought that they could be declining at least locally. *C. p. patagonus* is by far the most numerous subspecies, but it is certainly declining in numbers. Flocks of 1000 birds could easily be seen in eastern Rio Negro in 1977, but this is probably no longer possible (Ridgely, 1982). Described as declining in some areas but abundant in others (Argentina CITES MA, 1986). Bucher and Rinaldi (1986) summarised the status of the species in Argentina, stating that it had been reduced considerably since the second half of the nineteenth century, particularly in the provinces of Buenos Aires and Cordoba; important populations remained in Patagonia and central and north-western Argentina.

Chile Silva (1985a) quoted a 1982 population estimate for *C. p. byroni* of less than 1000, but the most recent count in 1984 indicated that about 2800 birds remained (Goodland, 1987). Formerly common, the race was described as one of the most numerous birds in central Chile around 1850, after which it was rapidly exterminated from many areas in which it had once bred, by persecution for food and as an agricultural pest. The reduction in range appears to have been particularly severe since the turn of the century (Hellmayr, 1932). Some protection measures began to be introduced after 1940 by land-owners (Johnson, 1967). Since then numbers have begun to increase again, and further breeding colonies were reported in remote areas (Johnson, 1972).

Uruguay Ridgely (1982) thought it doubtful whether the species would continue to occur in Uruguay in the future.

HABITAT AND ECOLOGY. The species is found mainly in open grassy or shrubby country, feeding mostly on the ground, often in huge flocks. Food consists of seeds, berries, fruits and probably vegetable matter (Forshaw and Cooper, 1978), and depredations on crops are widely reported, though have not been quantified (Ridgely, 1981). These parrots nest colonially in holes in cliffs and ravines, the young fledging in November-December (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Regarded as an agricultural pest and also considered to be good to eat.

Argentina This species has traditionally featured as food in Argentina, the young being removed from their burrows by people lowered down the cliffs on ropes. The feathers have been used for adornment by the indigenous peoples and the birds have also been put to various medicinal and magical uses. Commercial capture of parrots for the international pet trade has recently been intense, particularly in the province of Formosa, where, between 1980 and 1982, a total of 30 000 parrots of various species, including *C. patagonus*, were captured. This activity is carried on to a lesser extent in the provinces of Misiones and Santa Fe. The greatest threat to the species, however, is probably from persecution as an agricultural pest. In Argentina it is regarded as one of the most damaging species to agriculture, and has been declared a national plague by Law No. 4.863 (Anon., 1984b). The main crops affected are

Cyanoliseus patagonus

sunflower, maize, wheat and fruit trees. However, a recent study concluded that damage to agriculture overall is limited, but may become serious on a local scale in irrigated areas (Bucher and Rinaldi, 1986). The parrots are shot, and suggestions have been made that entire breeding colonies should be dynamited. Much of the Patagonian steppe, formerly used only for grazing, is now being irrigated and turned to arable use, thus increasing the conflict with the parrots. It is thought that population reduction campaigns may have been successful, at least locally. This species is particularly vulnerable, because of its colonial nesting habit, and could easily be seriously reduced by excessive persecution, as has happened in Chile (Ridgely, 1981).

Chile The country people in Chile used to make a habit of visiting the breeding colonies of *C. p. byroni* every spring to pull out young birds using hooks on bamboo poles. The chicks may then be sold either as food or pets (Johnson, 1967). Although the species is legally protected, enforcement is poor and some persecution still occurs (Silva, 1985).

Uruguay No information.

Table 1. Minimum net imports of live *C. patagonus* reported to CITES

	1981	1982	1983	1984	1985
Austria	-	10	2	-	38
Canada	-	60	170	356	-
China	-	59	14	-	20
Czechoslovakia	-	30	-	-	-
Denmark	20	-	-	5	140
France	70	35	70	-	340
Germany, F.R.	310	1330	38	100	470
Greece	-	-	-	-	115
Hong Kong	310	-	-	-	-
Hungary	-	-	-	-	100
Italy	-	500	500	85	91
Japan	125	30	25	-	-
Kuwait	-	-	-	150	-
Malaysia	-	-	-	-	17
Netherlands	14	273	-	-	-
Netherlands Antilles	-	-	-	270	-
Poland	-	-	-	-	10
Portugal	20	40	-	6	-
Quatar	-	-	-	-	15
Saudi Arabia	-	-	-	390	300
Singapore	-	-	-	-	9
South Africa	-	-	-	-	414
Spain	500	786	305	350	1515
Sudan	-	-	-	100	-
Sweden	-	60	-	-	-
Switzerland	-	1	15	1	30
Taiwan	-	-	-	-	30
UAE	-	-	-	-	43
UK	880	-	-	2	250
USA	3320	3941	3720	2228	200
Venezuela	10	65	21	-	-
Unknown	-	-	-	-	30
TOTAL	5659	7260	4880	4043	4183

Cyanoliseus patagonus

Table 2. Reported countries of origin or export for exports of live *C. patagonus* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>C. patagonus</i>					
Argentina	5659	7248	4876	3770	4182
Chile	-	10	-	-	1
Countries without wild populations of <i>C. patagonus</i>					
Hong Kong	-	-	4	-	-
Netherlands	-	-	-	274	-
Paraguay	-	1	-	-	-
South Africa	-	-	-	-	6
USA	-	-	-	2	-
Unknown	-	1	-	1	-

INTERNATIONAL TRADE Minimum net imports reported to CITES in the years 1981 to 1985 varied between 4043 and 7260 (Table 1). The chief importers were the USA, F.R. Germany, Spain, Italy and the UK. Almost all the exports were reported as having originated in Argentina (Table 2), although there were ten birds reported to have been exported from Chile to Belgium in 1982, purpose unspecified. These may well have been *C. p. byroni*.

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information was extracted from Fuller et al. (1987), unless otherwise indicated.

Argentina Considered a harmful species and therefore excluded from a general ban on trade in wildlife under Resolution No. 62 of 14 March 1986 (CITES Notification No. 412, 28 November 1986). Bucher and Rinaldi (1986) suggested that the species should be protected outside areas where agricultural damage was a major problem and that traditional lethal control methods within such areas should be replaced by an integrated pest control strategy.

Chile Listed as a protected species under Decreto No. 40 (1972), which bans all hunting, transport and commercialization, except for scientific purposes.

Uruguay With few exceptions, all native wildlife is protected.

CAPTIVE BREEDING The species is fairly common in captivity, though its popularity as a pet is reduced by its harsh voice. It can be kept in a colony system but best results are normally obtained from pairs housed individually (Low, 1986a). *C. p. byroni* is rare in aviculture, but is held in collections, and has bred, in the UK, Italy and Chile. The total number of young produced is very small. There are plans to start a breeding centre in Chile for this and other endangered species (Silva, 1985).

RED-FAN PARROT
HAWK-HEADED PARROT

Recommended list: 2
[Possible problem]

Deroptus accipitrinus (Linné, 1758)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Distributed in northern South America in Guyana, Suriname, French Guiana, southern Venezuela and north-eastern Brazil, west locally to south-eastern Colombia, eastern Ecuador and north-eastern Peru. Relatively common in the north-east, but becoming less numerous towards the west of the range. Populations to the south of the Amazon are declining as a result of forest destruction. Inhabits a variety of forest types and feeds mainly in the canopy.

Minimum net imports reported to CITES rose from 73 in 1981 to a plateau of nearly 300 from 1982 to 1985. Most of the exports originated in Guyana, with small quantities reported from Suriname and Brazil. Protected or banned from export in all range countries except Guyana and Suriname, where export quotas are in force.

The exports from Guyana have evidently increased, but the fact that they appear to have stabilised at just under 300 since 1982 suggests that the export quotas are being enforced. The quotas are not based on population surveys, and efforts should be made to rectify this.

DISTRIBUTION Venezuela, Guyana, Suriname, French Guiana and north-eastern Brazil, west locally to south-eastern Colombia, eastern Ecuador and north-eastern Peru.

D. a. accipitrinus (Linné): north of the Amazon River in Brazil, Guyana, Suriname, French Guiana and Venezuela, south-eastern Colombia, north-eastern Peru and eastern Ecuador

Brazil North of the Amazon River, in eastern Para (west at least to Obidos) and Amapa. Apparently absent from most of western Amazonian Brazil, recorded only in the upper Rio Negro area (Ridgely, 1982).

Colombia Only in the extreme east, recorded at Puerto Carreno, Vichada, and Mitu and the Rio Apaporis in Vaupes; perhaps locally in western Vaupes and southern Meta in the vicinity of San Jose del Guaviare (Hilty and Brown, 1986).

Ecuador Two specimens recently collected from Capitan Chiriboga on the Rio Pastaza (Orces, 1974, see Ridgely, 1981).

French Guiana Said by Berlioz (1962) to be widespread. Recorded from an area of forest at Saül, 175 km south-west of Cayenne (Dick et al., 1984).

Guyana Coastal rivers from Ituribisi to Courantyne; Bartica, Wineperu, Kamakusa; Merume, Kanuku and Acary Mountains (Snyder, 1966).

Peru No recent records available, but said by Jivaro Indians to be in the flooded forest of the Rio Morona drainage (O'Neill, 1981).

Suriname Present from the coastal forests (Donahue and Pierson, 1982) to the interior (Haverschmidt, 1968), including the Raleigh Falls and Brownsberg National Parks (Donahue and Pierson, 1982) and Coeroeni Airstrip (Scharringa, 1974).

Derropterus accipitrinus

Venezuela Found in northern Bolivar from the lower Rio Caura to the upper Rio Cuyuni (Meyer de Schauensee and Phelps, 1978).

D. a. fuscifrons Hellmayr

Brazil south of the Amazon, in southern Para, west to the Rio Tapajos, and southwards into northernmost Mato Grosso in the drainages of the upper Rio Xingu and Rio Tapajos (Sick, 1984) and eastwards into north-western Maranhao in the Rio Pindare area (Ridgely, 1981).

POPULATION Reportedly common in north-eastern South America, where the population is thought to be essentially stable, but becoming naturally much less widespread westward. In upper Amazonia it is decidedly rare and local. *D. a. fuscifrons*, south of the Amazon, is still locally fairly common, but definitely declining in numbers (Ridgely, 1981).

Brazil Ridgely (1979) thought that *D. a. accipitrinus* was quite common in Amapa and eastern Para but that *D. a. fuscifrons* was "doubtless declining" owing to widespread forest destruction and because it was avidly sought after as a pet. Roth (*in litt.*, 17 December 1985) also reported that *D. a. fuscifrons* was not common.

Colombia Thought not to be common in the Mitu district, Vaupes (Lehmann, 1957, see Forshaw and Cooper, 1978). Ridgely (1982) stated that it was apparently rare, despite the abundance of suitable habitat.

Ecuador The species is much less common in the west of its range, and there is only one recent record from Ecuador (Ridgely, 1981).

French Guiana Berlioz (1962) described the species as widespread in lower Amazonia, but apparently nowhere abundant.

Guyana Uncommon (Snyder, 1966).

Peru Parker et al. (1982) list the status as unknown in the northern part of eastern Peru. O'Neill (1981) said that there were no recent records and that the status was unknown.

Suriname Said to be common in the forests of the sand ridges, the savannah forests and the interior (Haverschmidt, 1968). Listed as common by Donahue and Pierson (1982). Small flocks were recorded sporadically at Coeroeni Airstrip (Scharringa, 1974).

Venezuela Ridgely (1982) found it to be fairly common in its limited range.

HABITAT AND ECOLOGY. Found in undisturbed tierra firme forest throughout its range; it seems generally to avoid varzea forest, edge and clearings. In Colombia, it is found in sandy-belt forest (Ridgely, 1981). In Suriname, it is found in the forests of the sand ridges, savannah forests, the interior (Haverschmidt, 1968) and the coast. It forages in the canopy, singly or in groups (Donahue and Pierson, 1982), usually of less than four birds (McLoughlin and Burton, 1976). Roosts singly in holes in trees (Haverschmidt, 1968). Feeds mostly on palm fruits, but also often in cultivation on guava and other fruit crops (McLoughlin and Burton, 1976). Nesting occurs in holes in trees, usually excavated by woodpeckers, and has been recorded in April in Suriname (Haverschmidt, 1968), and from February to March in Guyana (McLoughlin and Burton, 1976).

THREATS TO SURVIVAL Over most of its range, the species is little threatened by habitat destruction (Ridgely, 1981); however *D. a. accipitrinus* was said to be "doubtless declining" owing to widespread forest destruction occurring in eastern Brazil. In 1979 there was no reserve within its range, and one was urgently needed. Both subspecies are in great demand as a cage birds, but it was not known whether this had been responsible for any serious population declines (Ridgely, 1979), although this was more likely in upper Amazonia, where it is always highly sought-after as a pet, and where the population density is lower (Ridgely, 1981). Roth (*in litt.*, 17 December 1985) reported that the high prices available may be having an adverse impact on the population of *D. a. fuscifrons*. Niles (1981) highlighted the accelerating pace of forest destruction in Guyana, the impact of which he said was slight at present but likely to increase in the future. He suggested the establishment of forest reserves to protect habitat and of breeding centres to supply parrots for the export trade.

INTERNATIONAL TRADE Niles (1981) reported that five *D. accipitrinus* were exported from Guyana in 1979 and none in 1978. Minimum net imports reported to CITES rose from 73 in 1981 to a plateau of nearly 300 from 1982 to 1985. The main importing countries were the USA, F.R. Germany and the UK (Table 1). Most of the exports originated in Guyana, with small quantities reported from Suriname and Brazil (Table 2). The exports from Guyana have evidently increased since 1978, but the fact that they appear to have stabilised at just under 300 since 1982 suggests that export quotas are being enforced.

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information has mainly been extracted from Fuller *et al.* (1987).

Brazil All wildlife exports have been banned since 1967.

Colombia Commercial hunting of all birds has been prohibited since 1973 under Resolucion No. 849.

Ecuador All exports of indigenous wildlife have been prohibited since January 1983, except for educational or scientific purposes.

French Guiana French Guiana is covered by CITES controls as an overseas department of France. Sale and purchase of this species have been prohibited since May 1986.

Guyana Parrots are not protected in Guyana but are open for exploitation for the local and overseas pet trade. The numbers exported are controlled by quotas; however, the quotas are not determined on precise quantitative surveys (Niles, 1981). The 1987/88 quota is 480 (Thomsen, 1988).

Peru All commercial hunting of wildlife in the Selva region, east of the Andes has been prohibited since 1973. The species is not included in the list of parrots allowed for export (CITES Notification to the Parties No. 389, 7 May 1986).

Suriname Since 1970, hunting and trade of native birds and mammals has been prohibited except for listed game or domestic species. An annual export quota of 176 was established for 1987 (Thomsen, 1988).

Deropterus accipitrinus

Venezuela With few exceptions, all hunting of indigenous wildlife has been prohibited since 1970.

CAPTIVE BREEDING Said to be in great demand as a cage bird, commanding a high price. Very few aviculturists have been consistently successful in breeding this species (Low, 1986a).

Table 1. Minimum net imports of live *D. accipitrinus* reported to CITES

	1981	1982	1983	1984	1985
Belgium	-	-	-	7	10
Canada	-	-	-	8	2
Denmark	-	-	-	-	23
Dominican Republic	-	6	-	-	-
Germany, F.R.	10	34	21	76	15
Italy	-	-	6	-	-
Netherlands	-	10	-	18	84
South Africa	-	2	-	6	4
Sweden	-	-	-	-	8
Switzerland	-	29	2	6	4
Thailand	-	-	-	-	10
UK	-	28	-	50	42
USA	51	189	268	124	77
Unknown	12	-	-	-	23
TOTAL	73	298	297	295	271

Table 2. Reported countries of origin or export for exports of live *D. accipitrinus* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>D. accipitrinus</i>					
Brazil	10	-	8	-	-
Guyana	51	267	281	268	273
Suriname	12	2	-	21	4
Countries without wild populations of <i>D. accipitrinus</i>					
Belgium	-	8 *	-	-	-
Bolivia	-	-	6	-	-
Unknown	-	29	2	6	4

* captive-bred

ECLECTUS PARROT

Recommended list: 2

[Possible problem]

Eclectus roratus (P.L.S. Müller, 1776)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS The species comprises 7 to 10 subspecies which occur in Indonesia (from Sumba and Maluku east to Irian Jaya), in Papua New Guinea (including most associated islands), in north-east Australia (Cape York Peninsula), and throughout the Solomon Islands. It is also introduced on the Palau Islands. Some populations are poorly known but generally it seems to be common wherever it occurs. The species occurs in a wide variety of forested habitats.

The recorded trade during 1981-85 ranged from 3039 in 1985 to 67 in 1984. Prior to 1985 virtually all originated in Indonesia.

Given the wide range of this species and that it is generally common, it is likely that the present level of trade poses no threat to the species. Nevertheless, the fact that much of the trade involves birds that may have been illegally exported from their countries of origin, suggests that the trade should be investigated more thoroughly. If the trade is concentrating on one or more of the subspecies with very restricted ranges it could be having a serious adverse effect on local populations.

DISTRIBUTION Eastern Indonesia, Papua New Guinea, northern Australia and the Solomon Islands. Sumba (Lesser Sunda Islands), throughout Maluku, the western Papuan Islands, Irian Jaya and Papua New Guinea including offshore islands, the Admiralty Islands and Bismarck Archipelago (Papua New Guinea) east to the Solomon Islands; Cape York Peninsula, northern Queensland, Australia; introduced to the Palau Archipelago (Pacific Trust Territory) and probably Kur and Gorong, Indonesia. Ten subspecies are recognised, but the validity of three of them is questionable (Forshaw and Cooper, 1978).

E. r. roratus Occurs on Buru, Seram, Ambon, Saparua and Haruku in southern Maluku, Indonesia (van Bemmelen, 1948).

E. r. vosmaeri (Rothschild, 1922) Northern and central Maluku, Indonesia; recorded from Obi, Bacan, Halmahera, Ternate, Kayoa, Mare, Damar and Morotai (van Bemmelen, 1948).

E. r. westermanni (Bonaparte, 1850) Known only from aviary specimens (Forshaw and Cooper, 1978). May be an aberrant specimen of nominate *roratus*; the shortage of red on the flanks of the male may be due to plucking by local collectors (White and Bruce, 1986).

E. r. cornelia (Bonaparte, 1850) Confined to Sumba in the Lesser Sunda Islands, Indonesia (Mayr, 1944).

E. r. riedeli A. B. Meyer, 1882 Tanimbar Islands, Indonesia (White and Bruce, 1986). Collected in 1900 on Larat (Hartert, 1901). Recently reported to have been observed on Pulau Nuswotar, Tanimbar (Anon., 1981).

E. r. polychloros (Scopoli, 1786) [formerly *pectoralis* (P.L.S. Müller, 1776)] Known from the Kai islands (van Bemmelen, 1948), the western Papuan Islands: including Gebe (Mees, 1972), Salawati (Rothschild and Hartert, 1901; Diamond et al., 1983), Waigeo (Rothschild, 1932; Gyldenstolpe, 1955),

Eclectus roratus

Batanta (Greenway, 1966), Misool (Mees, 1965), Kofiau, Gagi, Mansuar and Kawe (Diamond, 1986b); throughout most of Irian Jaya, Indonesia (Hoogerwerf, 1971; Diamond *et al.*, 1983) and Papua New Guinea (Diamond, 1972; Beehler, 1978; Coates, 1985), including offshore islands; Trobriand Islands and D'Entrecasteaux and Louisiade Archipelagos (Forshaw and Cooper, 1978).

Introduced to and now occurs from south Babe Ithuap to Pelilu (USA CITES MA, 1987). Records from Kur and Gorong (Seram Laut) are presumably feral escapes (White and Bruce, 1986).

E. r. biaki Hartert, 1932 Confined to Biak in Geelvink Bay, Indonesia (Mayr and Meyer de Schauensee, 1939a); doubtfully distinct from *polychloros* (Forshaw and Cooper, 1978).

E. r. aruensis (G.R. Gray, 1858) Restricted to Aru Islands, southern Maluku, Indonesia; doubtfully distinct from *polychloros* (Rand and Gilliard, 1967).

E. r. macgillivrayi (Mathews, 1913) Confined to coastal area of eastern Cape York Peninsula in Australia, from The Pascoe River south to Massey Creek and inland to the McIlwraith Range (Blakers *et al.*, 1984).

E. r. solomonensis (Rothschild and Hartert, 1901) Found throughout the Admiralty Islands, the Bismark Archipelago (Papua New Guinea) (Forshaw and Cooper, 1978), and throughout the Solomon Islands, from Choiseul to San Cristobal (Mayr, 1945).

POPULATION No overall estimate of the population size is known and there is a lack of recent information on the status of some populations.

Australia Described as common in suitable habitats within its restricted range in northern Queensland (Thomson, 1935; Australia CITES MA, 1986). Forshaw (in Forshaw and Cooper, 1981) found it common in the Iron Range district in 1966.

Indonesia Rand and Gilliard (1967) stated that the species was fairly common in New Guinea. It was reportedly common in the Vogelkop area, Irian Jaya in 1948-49 (Gyldenstolpe, 1955) and was still one of the commonest parrots there in 1962-1963 (Hoogerwerf, 1971). Diamond *et al.* (1983) found the species in small numbers in the Kumawa Mountains and the Wandammen Peninsula, Irian Jaya, and on Batanta Island; it was moderately abundant on Yapen Island and common on Salawati. Furthermore it has been described as common on Biak in 1937 (Mayr and Meyer de Schauensee, 1939) and on Waigeo in 1948-49 (Gyldenstolpe, 1955). Smiet (1985) found it on all islands that he visited in Maluku; he described it as one of the commonest parrots in Maluku; it was very common in coastal areas, plantations, secondary forest, near human settlements, and mangroves but not recorded from primary forest. The continued occurrence of the species on Ambon, which is densely populated by man, was thought to illustrate a high tolerance of large-scale collection for trade and habitat destruction (Smiet, 1985). In the tanimbar group it was described as one of the two most common birds on Pulau Nuswotar in 1980 (Anon., 1981) but was found to be uncommon on Yamdena in 1986 (F. Rozendaal, *in litt.*, 29 March 1987).

Papua New Guinea Rand and Gilliard (1967) stated that the species was fairly common in New Guinea. It was quite common in 1964-65 throughout the eastern highlands of New Guinea and was thought to have been much more numerous at lower elevations (Diamond, 1972). Gilliard (1950) found it fairly common in south-east Papua in 1948 and Beehler (1978) found the species

abundant in lowlands and common in hill forest in north-eastern New Guinea. Coates (1985) stated that it was generally common to abundant but scarce and local above 1000 m; particularly common on some islands of the Bismarck Archipelago.

Solomon Islands Described as common in the Solomon Islands (Mayr, 1945).

Palau First reported in 1950 by Hill (in Ripley, 1951). Observations in the late 1970s indicated that the species had become established as a fairly numerous breeding species; during the period 1976 to 1979 it was recorded as uncommon on Urukthapel and Eil Malk, and as rare on Babelthuap, Arakabesan and Koror. It often flocked with *Cacatua galerita* and was similarly implicated in the destruction of native palms (Pratt et al., 1980). More recently described as uncommon but conspicuous (Pratt et al., 1987).

HABITAT AND ECOLOGY. An inhabitant of lowland forests and clumps of tall trees in savannah (Forshaw and Cooper, 1978). In north-east New Guinea it was found in forest and forest edge from sea level up to about 1500 m (Beehler, 1978). In Maluku it was observed in coastal areas, plantations, secondary forest and near human settlements; it was also seen in Mangroves, but not in primary forest (Smiet, 1985). Hoogerwerf (1971), however, reported that it was a fairly common resident of primary forest in the Vogelkop, Irian Jaya. Most numerous at low altitudes (Smith, 1979). An arboreal species, usually seen in pairs or small groups, however larger parties may congregate when feeding in treetops (Forshaw and Cooper, 1981). The diet reportedly consists largely of fruits but also includes nuts, seeds, berries, leaf buds, blossoms and nectar (Forshaw and Cooper, 1978). Mayr (1945) stated that it was very destructive to fruit crops in the Solomons. The nesting season varies in different parts of the species range; nesting usually takes place in a hole in the trunk of a tall tree near the forest edge, invariably in an high inaccessible position. Two eggs are normally laid (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL The species has long been known as a pet bird of native people in Indonesia and New Guinea (Smith, 1979). The extent and impact of the destruction of suitable habitat is largely unknown.

Australia Forshaw and Cooper (1981) reported that illegal collection of nestlings might still continue on Cape York Peninsula, but it was thought likely that these birds remained in the Cairns district where there is a demand for them as pets. In 1986 unlawful taking of nestlings was still occurring but there had been no recent prosecutions (Australia CITES MA, 1986).

Indonesia Threatened on Sumba by habitat destruction, for grazing cattle and more recently commercial logging, and also by collecting for the pet trade. This species is reportedly especially vulnerable as it requires large trees with hollows for nesting (R. Wirth, in litt. to P. Goriup, 18 August 1982). Although officially protected, it is a popular pet in Maluku and is traded in fair numbers (Smiet, 1985).

Papua New Guinea None known.

Solomon Islands None known.

INTERNATIONAL TRADE Highly prized as an aviary bird due to its spectacular colouration (Forshaw and Cooper, 1981). Forshaw and Cooper reported that *polychloros* was the most common race in captivity in Australia and Low (1986a) stated that *vosmaeri* was one of the races most frequently traded. It

Eclectus roratus

seems likely that recent protective legislation has reduced the level of international trade, few have been imported into the United Kingdom since the 1970s (Low, 1986a). Listed in CITES Appendix II in 1981.

Table 1. Minimum net imports of live *E. roratus* reported to CITES.

	1981	1982	1983	1984	1985
Austria	-	-	-	-	8
Canada	-	2	-	-	-
China	-	-	2	-	-
Egypt	-	-	-	1	-
France	-	-	-	-	8
Germany, F.R.	22	-	-	7 (Zoo)	-
Italy	-	-	32	12	-
Korea	-	-	-	7	-
Malaysia	6	-	-	-	-
Netherlands Antilles	-	-	-	2	-
Saudi Arabia	-	-	-	4	-
South Africa	6	-	-	-	-
Sweden	-	37	-	-	-
Suriname	-	-	-	1	-
Switzerland	-	23	8	2	-
UK	4	2	-	-	2
USA	50	129	308	31	3021
Unknown	-	338	-	-	-
TOTAL	88	531	658	67	3039

The number of birds reported in trade can be seen to have varied considerably over this period (Table 1). The United States was the major importer. The 338 birds listed above as having been imported by unknown countries in 1982 were in fact reported as one transaction by Malaysia. Malaysia reported these birds to have been exported to various countries (Monaco, Singapore, United Kingdom, Italy, United States, Federal Republic of Germany and Belgium), without any indication of the number sent to each country.

Table 2. Reported countries of origin or export for exports of live *E. roratus* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>E. roratus</i>					
Australia	-	-	-	1	-
Indonesia	30	-	632	9	16
Pacific Islands	-	-	2	-	2
Papua New Guinea	4	-	1	-	-
Solomon Islands	-	-	2	5	-
Countries without wild populations of <i>E. roratus</i>					
Belgium	14*	16*	-	3	-
Czechoslovakia	-	1	-	-	-
Germany, F.R.	-	6	-	-	7*
Hong Kong	-	-	2	-	-
Malaysia	24*	478	224	6	-
Netherlands	-	-	-	8	-
New Zealand	-	2	-	-	-
Philippines	4	1*	30	-	-
Saudi Arabia	-	-	-	-	2
Singapore	-	2	-	8	-
South Africa	2	4	18	14*	3003*
Sweden	-	1	-	-	-
Taiwan	2	-	-	-	-
Thailand	2	-	-	12	-
UK	-	-	6*	2	-
Unknown	30	25	8	3	11
Zimbabwe	-	-	-	2*	-

* = captive-bred

With the exception of four zoological specimens imported by the Federal Republic of Germany in 1984 and eight imported commercially into France in 1985, none of the trade was reported to have been exported directly from Indonesia during this period. Furthermore the Indonesian Department of Nature Conservation reported that there had been no legal trade in this species during 1981-1984. The largest volume of trade was recorded in 1985 with substantial numbers in 1982 and 1983. Malaysia was the main exporter in 1982; the net export of 478 birds included 100 reported as imports by the United States which may be part of the 338 reported as exports to various countries by Malaysia (see above), in which case the net export in that year was 378. These birds were not reported as re-exports by Malaysia although the species does not occur there. A large proportion of the 1983 trade was reported as re-exports from Malaysia, of Indonesian origin. Most of the birds reported to have originated in Malaysia were apparently imported by the United States from Singapore. In 1985 South Africa reported the export of 3002 captive-bred birds to the United States but the latter country only recorded an import of 10 birds (including 2 captive-bred) from South Africa. It is most unlikely that this number of captive-bred birds would all be available at one time. As the species is protected in Indonesia (see Conservation Measures) and does not occur in Malaysia, the majority of the reported trade would appear to have been exported illegally from the source country.

Eclectus roratus

CONSERVATION MEASURES

Australia Protected from commercial export by the Wildlife Protection (Regulation of Exports and Imports) Bill 1982.

Indonesia Protected since 1972 (Decree of the Minister of Agriculture No. 327/Kpts/Um/7/1972).

Papua New Guinea A 'restricted' species, protected since 1981 (the date of its inclusion in CITES Appendix II) from commercial export under the Customs (Prohibited Exports) Regulations 1973 and the International Trade (Fauna and Flora) Regulations 1981 (Parker, 1981).

Solomon Islands Protected by the Wild Birds Protection Ordinance (Amended 1969).

Trust Territory of Pacific Islands Not protected.

CAPTIVE BREEDING First recorded to have been bred in captivity in 1881 in Germany. Bred in a number of countries throughout the world in the 1970s. The total of 31 reported as bred in the United Kingdom in 1977 by The Parrot Society members was thought to be larger than that bred in any other country (Low, 1986a). In 1984 the number reported as bred by Parrot Society members was 15 (per The Parrot Society Breeding Register 1984).

RED LORY

Recommended list: 3
[No problem]

Eos bornea (Linné, 1758)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS This species is endemic to Indonesia and comprises two to four subspecies, restricted to Ambon, Haruku, Saparua, Buru, Seram, Seram Laut, Watubela Islands and Kai Islands. In 1980/81 it was considered to be very common in coastal areas on all of the larger islands on which it has been recorded, but it was rare inland. Frequents coastal plantations and secondary forest.

The recorded trade during 1981-85 averaged 6210 birds per year and ranged from a maximum of 12157 in 1984 to a minimum of 12157 in 1981. The species is not protected in Indonesia but capture and export are subject to licence.

The present levels of trade are probably not affecting the populations to any great extent. Nevertheless there is a great demand for this species, so future levels of trade and populations trends should be closely monitored.

DISTRIBUTION Endemic in Indonesia to the Islands of Ambon, Haruku Saparua, Buru, Seram, Seram Laut and Watubela Islands and Kai Islands (White and Bruce, 1986). Forshaw and Cooper (1978) listed four subspecies but stated that the recognition of *bernsteini* and *rothschildi* was questionable as there were intermediate populations. White and Bruce (1986) treated these latter names as synonyms of nominate *bornea*.

E. b. bornea Ambon, Haruku and Saparua (van Bemmell, 1948).

E. b. cyanonothus (Vieillot, 1817) Restricted to Buru (van Bemmell, 1948).

E. b. rothschildi Stresemann, 1912 Seram (van Bemmell, 1948).

E. b. bernsteini (Rosenberg, 1863) Kai Islands, Seram Laut (Manawoka, Gorong) and the Watubela Islands (van Bemmell, 1948).

POPULATION Stresemann (1914) found that on Seram it was common in the coastal zone and the mountain forests up to 4000 ft. Smiet (1985) and Schodde and Mathews (1977) both suspected that the species was subject to seasonal fluctuations. However, Smiet (*ibid*) saw it on Ambon, Seram, Buru and the Kai Islands, usually in groups of up to 30 individuals; it was very common near coastal plantations and human settlements and in secondary forest but rare inland. In Kai small groups were frequently seen to cross the sea between islands. More recently, Bowler (1988) found it common and abundant in both primary and secondary forest on Seram in late 1987.

HABITAT AND ECOLOGY Coastal plantations and secondary forest (Smiet, 1985). Stresemann (1914) reported that on Seram, flocks of twenty or more were usually seen in flowering trees, especially *Eugenia* sp., and that the examination of the stomach contents of two birds revealed fragments of flowers and remains of small insects.

Eos bornea

THREATS TO SURVIVAL The Red Lory is a popular pet throughout its range and according to Smiet (1985) accounts for a large proportion of the parrot export from Maluku (12% in 1983). Such levels of removal from the wild may eventually pose a threat to the species. The Indonesian Directorate of Nature Conservation stated that the harvest of the species was under control (Indonesia CITES MA, 1986).

INTERNATIONAL TRADE Commonly traded, the most freely available of the lorries (Low, 1977). Listed in CITES Appendix II in 1981.

Table 1. Net imports of live *E. borneo* reported to CITES.

	1981	1982	1983	1984	1985
Argentina	-	-	-	400	-
Australia	-	-	4	-	-
Austria	-	10	-	-	9
Bahamas	-	-	-	4	4
Botswana	-	-	-	-	30
Canada	-	10	29	5	33
China	-	1070	-	-	-
Denmark	-	-	50	20	-
France	140	200	399	180	150
German D.R.	-	-	-	-	1
Germany, F.R.	240	424	298	366	175
Greece	-	-	-	-	30
Hong Kong	150	-	235	515	140
Hungary	-	-	4	-	-
Italy	100	415	325	106	-
Japan	650	-	575	805	549
Korea, People's Republic	-	-	-	-	2
Kuwait	260	300	330	30	-
Lebanon	-	10	-	10	-
Malaysia	50	-	595	442	150
Netherlands	-	-	-	-	33
Neth. Antilles	-	-	-	2	-
Portugal	-	-	5	-	-
Singapore	700	945	275	-	-
South Africa	5	-	-	-	-
Spain	-	-	50	80	230
Sweden	-	286	-	33	50
Switzerland	-	-	12	14	-
Taiwan	235	-	1209	2773	1690
Thailand	-	40	84	205	30
UK	35	21	164	150	39
USA	219	1126	1426	6017	1840
TOTAL	2784	4857	6069	12157	5185

The volume of world trade averaged 6210 birds each year (Table 1). The USA was the main importer during this period.

Table 2. Reported country of origin, or where no origin is given, the exporter of the reported transactions.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>E. bornea</i>					
Indonesia	2735	4055	5948	11552	5116
Countries without wild population of <i>Eos bornea</i>					
Austria	-	-	-	-	1*
Belgium	37 + 12*	87 + 60*	113	-	-
Germany, F.R.	-	-	-	1	-
Hong Kong	-	186	-	-	-
Japan	-	20	-	-	-
Malaysia	-	340	-	-	-
Netherlands	-	-	-	400 + 4*	-
Singapore	-	100	39	33	311
Sweden	-	-	-	-	15
Taiwan	-	-	24	-	-
Tanzania	-	-	-	40	-
Unknown	15	9	-	-	-

* = captive-bred

Most of the transactions summarised above where Indonesia was not reported as the origin or exporter have probably been incorrectly reported; however some of the birds involved, including 23% of those exported from Belgium, were captive-bred. The above data can be compared with the numbers reported by the Department of Nature Conservation to have been exported from Indonesia: 1981 - 2660, 1982 - 4118, 1983 - 4968, 1984 - 7220 (Indonesia CITES MA, 1986). These figures show reasonable correlation with those reported to CITES in all years except 1984.

In addition, records compiled by Balai Konservasi Sumber Daya Alam VIII for the period April 1983 through March 1985 (therefore only providing complete data for 1984) show the commercial harvest in Maluku of: 1983 - 3924, 1984 - 10 022, 1985 - 1996 (R. Milton, *in litt.*, 1986). The number reported to have been harvested in 1984 is significantly larger than the number exported in that year.

The two estimates of the volume of trade in 1984 of 7220 or 11552 birds are both well within the quota of 15675 set for that year (see below).

CONSERVATION MEASURES Not protected, however recent legislation requires permits to be obtained from the Director General of Forest Protection and Nature Conservation (PHPA), in order to legally catch, own, breed or transport non-protected wildlife species (Decree of the Minister of Forestry No. 66 Kpts-11/1983). Trade is monitored by the Directorate General of Forest Protection and Nature Conservation (PHPA), Directorate of Nature Conservation, Subdirectorates of Species Conservation (Bogor). Annual harvest quotas are set for each species (Milton and Marhadi, 1986). In 1984 the quota for this

Eos bornea

species was 14 000 from Maluku and 1675 from Irja (= Irian Jaya, presumably referring to the Kai Islands) (Anon., 1984a), in 1985 it was 5000 from Maluku and 5000 from Irja (Anon., 1985), and in 1987 it was 2500 from Maluku and 2500 from Irja (Anon., 1987a). No information has been provided explaining the basis for setting the quotas; apparently periodic population surveys are not carried out (Indonesia CITES MA, 1987; Milton and Marhadi, 1987).

CAPTIVE BREEDING The species has been bred in captivity on a number of occasions in Europe and the USA although not in large numbers (Low, 1986a).

BLUE-STREAKED LORY

Recommended list: 1
[Problem]

Eos reticulata (S. Müller, 1841)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Confined to the Tanimbar Islands, Indonesia, and apparently was introduced some time ago into the Kai Islands and Damar. In 1981 it was described as very common on Yamdena, the main island of the Tanimbar group, but was not seen on the Kai Islands. Mainly inhabits mangroves, plantations and secondary forest along the coast, but also in primary forest inland.

The recorded trade during 1981-85 averaged 2952 birds per year and varied from 370 in 1981 to 7669 in 1983. The species is not protected in Indonesia but capture and export are subject to licence.

Given that the area of the Tanimbar Islands is only 5085 sq.km. and that habitat destruction must be reducing the area suitable for this species, the present level of trade must be cause for concern.

DISTRIBUTION Endemic to Maluku, Indonesia where it is only known from the Tanimbar Islands; introduced to Damar (Smiet, 1985) and the Kai Islands (van Bemmelen, 1948). Also recorded from Babar (Finsch, 1900) and there is a possible sight record from Wetar (Anon., 1981).

POPULATION Forshaw and Cooper (1978) wrote, "up until the 1920s collectors had no difficulty obtaining specimens of the Blue-streaked Lory, so presumably it was, and probably still is quite common." It was described as one of the most common birds on Pulau Nuswotar, Tanimbar (Anon., 1981). Smiet (1985) did not see the species in the Kai Islands but found it to be very common in Tanimbar (Yamdena Island) particularly in coastal areas. However Rozendaal (in litt., 29 March 1987) found it rather uncommon at the sites he visited on Yamdena.

HABITAT AND ECOLOGY. Coastal mangroves, plantations and secondary forest but Smiet (1985) also saw it in primary forest inland.

THREATS TO SURVIVAL The species has recently become an important trade item, accounting for 10% of parrot exports from Maluku in 1983 (Smiet, 1985). It was reported that the species was harvested under control (Indonesia CITES MA, 1986); however there is no indication of how the quotas are determined, and the levels that have been set in the past seem excessive in view of the restricted range of the species.

INTERNATIONAL TRADE Although known to have been exhibited in a number of collections from the late 1900s to the 1920s, the species was rarely traded or represented in avicultural collections, until 1971, when it was frequently offered for sale by dealers in Singapore (Low, 1977). Listed in CITES Appendix II in 1981.

Eos reticulata

Table 1. Net imports of live *E. reticulata* reported to CITES.

	1981	1982	1983	1984	1985
Australia	-	-	6	-	-
Austria	-	4	-	-	-
Belgium	-	10	-	-	-
Botswana	-	-	-	-	30
Canada	-	-	6	-	24
Denmark	-	-	-	60	-
France	-	-	149	163	20
Germany, F.R.	-	102	140	40	40
Greece	-	-	-	-	20
Hong Kong	-	-	879	-	-
Italy	-	30	100	50	-
Japan	30	35	420	135	40
Kuwait	-	-	300	-	-
Malaysia	-	-	492	505	110
Singapore	290	90	-	-	153
South Africa	-	-	-	20	-
Spain	-	-	20	-	-
Switzerland	-	-	2	10	-
Taiwan	-	-	-	516	450
Thailand	-	10	-	-	-
UK	-	65	245	20	45
USA	50	248	3094	3211	467
TOTAL	370	594	7669	4730	1399

The volume of world trade averaged 2952 birds a year (Table 1), however the number reported in 1983 was far larger than that reported in any of the other years. The USA was the main importer during this period.

The data in Table 2 can be compared with the numbers reported by the Department of Nature Conservation to have been exported from Indonesia: 1981 - 370, 1982 - 534, 1983 - 4252, 1984 - 2566 (Indonesia CITES MA, 1986). Some further figures from the same source are: 1984 - 2451, 1985 - 1720, 1986 - 6085 (Indonesia CITES MA, 1987). It is not known why there are two different figures for 1984. These figures show reasonable correlation with those reported to CITES in 1981 and 1982, however the number reported to CITES in 1983 and 1984 is significantly larger than that reported by the Department of Nature Conservation.

In addition, records compiled by Balai Konservasi Sumber Daya Alam VIII for the period April 1983 through March 1985 (therefore only providing complete data for 1984) show the commercial harvest in Maluku of: 1983 - 1850, 1984 - 2785, 1985 - 0 (R. Milton, *in litt.*, 1986).

The volume of reported trade in 1984 and 1985 was well within the quotas set for those years (see below).

Table 2 Reported country of origin, or where no origin is given, the exporter of the reported transactions.

	1981	1982	1983	1984	1985
Countries with wild populations of <i>E. reticulata</i>					
Indonesia	370	494	7697	4630	1397
Countries without wild populations of <i>E. reticulata</i>					
India	-	-	-	80	-
Malaysia	-	100	-	-	-
Philippines	-	-	5	-	-
Sweden	-	-	-	-	24
Singapore	-	-	-	-	62
Thailand	-	-	-	20	-

CONSERVATION MEASURES Not protected; however recent legislation requires permits to be obtained from the Director General of Forest Protection and Nature Conservation (PHPA), in order to legally catch, own, breed or transport non-protected wildlife species (Decree of the Minister of Forestry No. 66 Kpts-11/1983). Trade is monitored by the Directorate General of Forest Protection and Nature Conservation (PHPA), Directorate of Nature Conservation, Subdirectorates of Species Conservation (Bogor). Annual harvest quotas are set for each species (R. Milton, *in litt.*, 1986).

In 1984 the quota for this species was 10 000 (Anon., 1984a), in 1985 it was 7000 (Anon., 1985), and in 1987 it was 1000 (Anon., 1987a). No information has been provided explaining the basis for setting the quotas; apparently periodic population surveys are not carried out (Indonesia CITES MA, 1987; Milton and Marhadi, 1987).

CAPTIVE BREEDING Seldom bred in captivity until the 1970s; more recently bred in small numbers in a number of countries (Low, 1986a).

VIOLET-NECKED LORY

Recommended list: 3
[No problem]

Eos squamata (Boddaert, 1783)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS This species, which is endemic to Indonesia, comprises three or four subspecies and is found on most islands of northern Maluku, Mayu, Widi Islands and the Western Papuan Islands. In 1980-81 it was observed commonly on Ternate, Halmahera, Morotai and Bacan (Maluku). In 1979 it was listed as rare in the Western Papuan Islands but a 1986 report stated that *Eos* spp. were common there. No recent information from the other islands in its range has been traced. Occurs mainly in coconut plantations, mangroves and secondary forest but is also found in primary forest.

The recorded trade in 1981-85 averaged 556 birds per year and ranged from 126 in 1982 to 806 in 1983. The species is not protected in Indonesia but capture and export are subject to licence.

The present level of trade is not likely to affect wild populations if, as is likely, the birds involved are from northern Maluku.

DISTRIBUTION Found on all islands in northern Maluku (Smiet, 1985), west Papuan Islands, Mayu Island and Widi Islands, Indonesia (Forshaw and Cooper, 1978).

E. s. squamata (includes *attenua* Ripley). Gebe (Mees, 1972), Misool (Mees, 1965), Waigeo, Batanta and Schildpad Islands and in the western Papuan Islands (Forshaw and Cooper, 1978). Within the western Papuan Islands, Diamond (1986b) found it on Misol, Batanta, Waigeo, Kofiau, Gag, Mausuar, Gam, Pulau Dua and Doif.

E. s. riciniata Bechstein. Widi Islands (van Bemmelen, 1948 as *E. s. insularis*) and islands of northern Moluccas (Forshaw and Cooper, 1978); Bacan, Halmahera, Ternate, Tidore, Moti, Morotai Mare and possibly Makian (van Bemmelen, 1948). White and Bruce (1986) also mentioned Damar and Muor within the range of this subspecies.

E. s. atrocaerulea Jany. known only from Mayu Island in the Molucca Sea (Forshaw and Cooper, 1978). Mees (1965) doubts the validity of this subspecies.

E. s. obiensis Rothschild, 1899. Confined to Obi in northern Maluku (van Bemmelen, 1948).

POPULATION Smiet (1985) found the species quite common on Ternate, Halmahera, Morotai and Bacan, northern Maluku. Milton and Marhadi (1987) considered it common on Bacan in July - September 1985 despite the occurrence of trapping for trade. Schodde (1979) described it as rare in the western Papuan Islands, but Diamond (1986a) found *Eos* spp. common there in 1986.

HABITAT AND ECOLOGY Most common in coconut plantations, mangroves and secondary forest but on Morotai it was also observed in primary forest up to 1000 m altitude (Smiet, 1985).

THREATS TO SURVIVAL None known. Smiet (1985) stated that it was not attractive as a pet because of its shrill cries, although it was known to be traded in small numbers.

INTERNATIONAL TRADE Quite well-known in aviculture, has been one of the least expensive of the lories to obtain (Low, 1986a). Listed in CITES Appendix II in 1981.

Table 1. Net imports of live *E. squamata* reported to CITES. The totals provide an estimate of the minimum volume of world trade for each year.

	1981	1982	1983	1984	1985
Australia	-	-	10	-	-
Bahamas	-	-	-	-	2
Belgium	-	-	-	120	-
Botswana	-	-	-	-	30
Canada	-	-	6	-	-
Denmark	-	-	20	40	15
France	-	-	-	100	10
Germany, F.R.	10	39	12	25	-
Hong Kong	10	-	-	-	-
Italy	25	-	-	6	-
Japan	40	-	-	120	20
Malaysia	-	-	-	75	10
Netherlands	-	-	-	2	40
Singapore	135	-	-	-	-
South Africa	-	3	-	20	8
Taiwan	125	-	296	95	125
UK	-	7	161	-	20
USA	85	77	301	123	413
TOTAL	430	126	806	726	693

Table 2. Reported countries of origin, or where no origin is given, the exporter of the reported transactions.

	1981	1982	1983	1984	1985
Indonesia	430	126	806	720	665
Countries without wild populations of <i>E. squamata</i>					
Singapore	-	-	-	-	28
Taiwan	-	-	11	-	-
UK	-	3*	-	-	-

* = captive bred.

Eos squamata

The volume of trade can be seen to have varied greatly, the largest number of birds having been reported in trade in 1983. The average number of birds in trade was 556 (Table 1).

The data in Table 2 can be compared with the numbers reported by the Department of Nature Conservation to have been exported from Indonesia: 1981 - 400, 1982 - 39, 1983 - 780, 1984 - 558 (Indonesia CITES MA, 1986). These figures show reasonable correlation with those reported to CITES in all years except 1984. In addition, records compiled by Balai Konservasi Sumber Daya Alam VIII for the period January 1984 through March 1985 (therefore only providing complete data for 1984) show the commercial harvest in Maluku of: 1984 - 275, 1985 - 119; and the number of parrots of this species exported from Maluku as souvenirs (live pets) by individuals: 1983 - 31, 1984 - 32, 1985 - 0 (R. Milton, *in litt.*, 1986). Combining these two sets of figures provides an estimate of the total number harvested, however this does not include birds traded within Maluku, as a permit is not required for such transactions. The same source records the proportion of the commercial harvest originating in northern Maluku for January 1983 to December 1984, which for this species was reported to have been: 1983 - 1000, 1984 - 80 (R. Milton, *in litt.*, 1986). Comparing these data with the total reported exports from Indonesia for 1983 and 1984, indicates that a large proportion of those exports probably originated in northern Maluku. The volume of reported trade in 1984 of 558 birds is well within the quota of 4000 set for that year (see below).

CONSERVATION MEASURES Not protected; however recent legislation requires permits to be obtained from the Director General of Forest Protection and Nature Conservation (PHPA), in order to legally catch, own, breed or transport non-protected wildlife species (Decree of the Minister of Forestry No. 66 Kpts-11/1983). Trade is monitored by the Directorate General of Forest Protection and Nature Conservation (PHPA), Directorate of Nature Conservation, Subdirectorates of Species Conservation (Bogor) (Petocz, 1984). Annual harvest quotas are set for each species (R. Milton, *in litt.*, 1986). The quotas set in 1984, 1985 and 1987 were only for the Maluku population of subspecies *riciniata*, therefore it seems that all legal trade in this species must originate in northern Maluku. In 1984 the quota was 4000 (Anon., 1984a), in 1985 it was 3000 (Anon., 1985) and in 1987 it was 800 (Anon., 1987a). No information has been provided explaining the basis for setting the quotas; apparently periodic population surveys are not carried out (Indonesia CITES MA, 1987; Milton and Marhadi, 1987).

CAPTIVE BREEDING The species has been bred in captivity on a number of occasions in Europe and the USA although not in large numbers (Low, 1986a).

YELLOW-FACED PARROTLET

Recommended list: 2
[Possible problem]

Forpus xanthops (Salvin, 1895)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Endemic to a very small area in Peru, this species is described as common in at least part of its small range. It inhabits dry scrub along the Marañon River, and little is known of its biology.

Minimum net imports reported to CITES in the years 1981 to 1983 fluctuated between 146 and 570. No trade was reported in 1984 and in 1985 the only trade involved 22 birds seized on entry into the Federal Republic of Germany. Nearly all of the exports apparently originated in Peru, but 96 were reported from Bolivia in 1983. Banned from export in Peru since 1983.

In view of the very restricted range of this species, any trade must be regarded as potentially dangerous. This was recognised by the Peruvian Government when the species was banned from export in 1983. The ban appears to have been effective, but reported exports from Bolivia in 1983 indicate that some birds may have been illegally exported there to evade the Peruvian legislation. No further trade should be permitted.

DISTRIBUTION Found only in a very restricted range in the Marañon Valley, Libertad, Peru; from the extreme east of La Libertad down river to south-western Amazonas and south-eastern Cajamarca. It probably extends north of the Balsas region in south-western Amazonas, but there are no records from there (Ridgely, 1981).

POPULATION O'Neill (1981) described the species as common within its restricted range, and Ridgely (1981) added that it was not presently endangered, and that the population was almost certainly stable. Parker (*in litt.*, 6 January 1986) said that the species was still common in 1976 and he suspected that it remained so.

HABITAT AND ECOLOGY Virtually nothing is known of the habits of this species (Forshaw and Cooper, 1978). It inhabits dry open scrub in upper tropical and subtropical zones (Meyer de Schauensee, 1982) adjacent to the Marañon River. It has been recorded from 600 to 1700 m (Ridgely, 1981).

THREATS TO SURVIVAL According to O'Neill (1981) the species is not persecuted, but goat damage to the vegetation could potentially pose a problem.

INTERNATIONAL TRADE Minimum net imports reported to CITES in the years 1981 to 1983 fluctuated between 146 and 570. No trade was reported in 1984 (Table 1). The only trade in 1985 involved 22 birds seized on entry into the Federal Republic of Germany. The chief importers were F.R. Germany, Japan, Belgium and the USA. Nearly all the exports apparently originated in Peru, apart from 4 from F.R. Germany and 96 from Bolivia in 1983 (Table 2). Ridgely (*in litt.*, 5 December 1985) questioned whether some of the reported trade in this species might not refer to *Forpus coelestis*.

Fórpus xanthops

Table 1. Minimum net imports of live *F. xanthops* reported to CITES

	1981	1982	1983	1984	1985
Belgium	-	90	-	-	-
Denmark	-	30	-	-	-
France	-	20	-	-	-
Germany, F.R.	142	185	30	-	22#
Italy	-	20	-	-	-
Japan	-	160	20	-	-
Netherlands	-	-	50	-	-
South Africa	8	9	-	-	-
Switzerland	-	2	-	-	-
UK	-	50	-	-	-
USA	4	4	136	-	-
TOTAL	154	570	246	-	22

seized on entry into F.R. Germany

Table 2. Reported countries of origin or export for exports of live *F. xanthops*.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>F. xanthops</i>					
Peru	154	570	50	-	22
Countries without wild populations of <i>F. xanthops</i>					
Bolivia	-	-	96	-	-
Germany, F.R.	-	4	-	-	-

CONSERVATION MEASURES Peru is a party to CITES. Resolucion Directorial No. 014-83-DGFF specifically prohibits capture of *F. xanthops* from the coast and Sierra regions (effective from 1983), and all trade in wildlife from the Selva region is prohibited. Parker (*in litt.*, 6 January 1986) recommended the establishment of a reserve in the upper Maranon Valley to protect this and other endemic species.

CAPTIVE BREEDING The species was said not to be known in captivity prior to 1979 (Low, 1986a; Ridgely, 1981). It has been bred less than ten times in captivity since 1980 (Low, 1986) and in 1986 it was thought that there were no more than 10-12 pairs in the UK (Emslie, 1986).

MOLUCCAN HANGING-PARROT

Recommended list: 3

[No problem]

Loriculus amabilis Wallace, 1862

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Endemic to Indonesia where it is restricted to Halmahera, Bacan and Morotai (northern Maluku), Sula Islands, Peleng, Banggai and Sangihe. Four subspecies are recognised but that on Sangihe Island, *catamene*, is now often regarded as a separate species. The species was only seen on three occasions in northern Maluku during 1980-81 but it was described as difficult to see and probably more widespread. Its recent status elsewhere is not known. Inhabits secondary forests, the edges of primary forests and village gardens.

The only recorded trade during 1981-85 was in 1982 when a total of 336 were exported by Indonesia. The species is not protected although capture and export are subject to licence.

The present level of trade is unlikely to be a problem, but given the lack of information on its status in the wild, the situation requires monitoring with clarification of Indonesia's export quota system.

DISTRIBUTION Endemic to Indonesia in Maluku, Sangihe, Sula Islands and the islands of Peleng and Banggai (Forshaw and Cooper, 1978).

L. a. amabilis Wallace. Halmahera, Bacan (White and Bruce, 1986) and Morotai (Smiet, 1985).

L. a. catamene Schlegel. Confined to Sangihe Island (Forshaw and Cooper, 1978). Regarded as a separate species by White and Bruce (1986).

L. a. sclateri Wallace. Sula Islands (Eck, 1977).

L. a. ruber Meyer and Wigglesworth. Peleng and Banggai in the Sulawesi group (White and Bruce, 1986).

POPULATION Smiet (1985) saw only two on Halmahera, in secondary forest near the coast, during 22 days field work in June 1980 and May 1981. He saw one on Morotai during six days in May 1981; this appears to be the only record for the island. He did not see it at all on Bacan during five days in April 1981. It was reported as not common on Sangihe in 1886-1887 (White and Bruce, 1986) but Rozendaal (*in litt.*, 29 March 1987) found it to be 'rather common' there in 1986. Rozendaal also saw it on a very few occasions on Halmahera in 1981, 1983 and 1985 but did not see it on Bacan.

HABITAT AND ECOLOGY. Found in pairs or small groups, generally seen in flowering or fruit-bearing trees in secondary forest, along the edge of primary forest, or in village gardens (Forshaw and Cooper, 1978). Smiet (1985) saw them only in secondary forest.

THREATS TO SURVIVAL None known.

Loriculus amabilis

INTERNATIONAL TRADE Not seen in captivity or in trade by Smiet (1985). Included in CITES Appendix II in 1981.

No trade in this species was reported by CITES Parties in 1981, 1983, 1984 or 1985. In 1982 a total of 336 were reported by Indonesia as exports, the bulk of which, 320, were apparently sent to the Federal Republic of Germany; 10 to Belgium and 6 to Thailand. The Indonesian Department of Nature Conservation, however, reported that there had been no trade in this species in the years 1981-1984 (Indonesia CITES MA, 1986).

CONSERVATION MEASURES Not protected; however recent legislation requires permits to be obtained from the Director General of Forest Protection and Nature Conservation (PHPA), in order to legally catch, own, breed or transport non-protected wildlife species (Decree of the Minister of Forestry No. 66 Kpts-11/1983). Trade is monitored by the Directorate General of Forest Protection and Nature Conservation (PHPA), Directorate of Nature Conservation, Subdirectorates of Species Conservation (Bogor) (Petocz, 1984). Annual harvest quotas are set for each species (Milton and Marhadi, 1987). No quota appears to have been set for this species.

CAPTIVE BREEDING Not known to have been bred in captivity (Low, 1986a).

BLUE-CROWNED HANGING-PARROT

Recommended list: 3

[No problem]

Loriculus galgulus (Linné, 1758)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Occurs in southernmost Thailand, Peninsular Malaysia, Singapore, Indonesia (Sumatra, Nias, Siberut, Sipura, Enggano, Anamba Islands, Riau Archipelago, Bangka, Belitung and Kalimantan), Sabah, Sarawak and Brunei. Its overall status was summarised in 1947 as 'common' and more recent assessments for specific areas indicate that the situation has not changed substantially except for local declines. In Singapore it was adjudged uncommon in 1983. Inhabits lightly wooded areas, forests, mangroves and plantations.

The recorded trade during 1981-85 ranged from 142 in 1981 to 4520 in 1985. The main exporting country was Malaysia with smaller numbers from Indonesia, Thailand and Singapore. The species is protected in Singapore and Thailand but in the latter country exports are allowed under a quota system.

The present level of trade is unlikely to affect the species, although the export of 4440 from Malaysia in 1985 indicates that the level of trade needs continual monitoring.

DISTRIBUTION South-East Asia from southern Thailand through Malaysia and Singapore to western Indonesia.

Brunei Apparently widespread (Smith, 1977).

Indonesia Recorded from Sumatra, Kalimantan, and adjacent islands, including the Anamba Islands, the Riau Archipelago, Bangka, Belitung, Mendanau, Tuangku, Nias, Pini Telo, Siberut, Sipura and Enggano (Forshaw and Cooper, 1978; van Marle and Voous, 1988).

Malaysia Resident in Peninsular Malaysia, recorded from Phatthalung south to Johore (Medway and Wells, 1976). In 1986 was described as widespread though apparently patchy in distribution in Sabah (Chief Game Warden, *in litt.*, 1986), while Smythies (1981) noted that it was apparently widespread in lowland habitats throughout Borneo wherever there were trees.

Singapore Recorded by Buck (1983) as an uncommon resident.

Thailand Recorded only from the southernmost peninsular provinces (Pattani, Yala) (Deignan, 1963).

POPULATION Described by Delacour (1947) as common throughout its range.

Brunei Reported as common by Smith (1977).

Indonesia There is very little recent information on status. Holmes (1982) found it common in S. Pawan of W. Kalimantan and Nash and Nash (1988) found it to be common in Tanjung Puting National Park, C. Kalimantan in 1986; however, it was reported by Pearson (1975a) as uncommon in Kutai Reserve, E. Kalimantan.

Malaysia Described in 1949 as locally common in Peninsular Malaysia (Gibson-Hill, 1949). Smythies (1981) noted that this was the only parrot species on Borneo which could be described as common.

Loriculus galgulus

Singapore Reported to be uncommon (Buck, 1983).

Thailand Described by Lekagul and Cronin (1974) as common within its limited range in Thailand.

HABITAT AND ECOLOGY. In Peninsular Malaysia recorded as inhabiting mangrove, forest canopy, forest edge, wooded gardens and plantations in lowlands and hills to 4200 ft (1280 m) (Medway and Wells, 1976). Smythies (1981) noted that it was recorded in Borneo 'wherever there were trees'. Breeding has been recorded in the wild between January and July (Forshaw and Cooper, 1978; Medway and Wells, 1976; Smythies, 1981); nests in holes in trees. Clutch size 3-5 (normally 4), incubation period apparently ca 20 days (Smith, 1979). Diet reportedly consists of nectar, fruits, seeds, blossoms and possibly small insects. Smythies (1981) noted that it had been collected feeding on Durian (*Durio zibethinus*) flowers.

THREATS TO SURVIVAL The species evidently occurs in modified and secondary habitats and is thus unlikely to be seriously affected by habitat destruction. It is reportedly a popular cage-bird throughout Malaysia and considerable numbers have been caught with bird-lime (Forshaw and Cooper, 1978). There are no indications that the species is threatened.

INTERNATIONAL TRADE All information on trade in *L. galgulus* is derived from annual reports to CITES.

Table 1. Minimum net imports of live *L. galgulus* reported to CITES, 1981-1985.

	1981	1982	1983	1984	1985
Belgium	-	-	-	200	550
Canada	-	-	-	1	-
Denmark	-	-	45	-	-
France	-	25	-	-	-
Germany, F.R.	96	303	-	350	430
Hong Kong	-	-	-	-	500
Italy	-	150	200	60	700
Japan	-	-	-	-	1700
Malaysia	46	-	-	-	-
Netherlands	-	-	-	150	560
Sweden	-	-	155	-	-
USA	-	74	512	2	80
Unknown	-	1240	-	-	-
Total	142	1792	912	763	4520

Table 2. Reported countries of origin or export for exports of live *L. galgulus* reported to CITES, 1981-85.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>L. galgulus</i>					
Indonesia	142	69	195	1	80
Malaysia	-	1673	400	700	4440
Singapore	-	-	155	-	-
Thailand	-	50	162	60	-
Unknown	-	-	-	2	-

The recorded trade during 1981-85 ranged from 142 in 1981 to 4520 in 1985. The Federal Republic of Germany, USA and Italy were the principal importing countries. The majority of the birds (89%) were exported by Malaysia, and this included 1240 in 1982 to unknown destinations. The above data can be compared with the numbers reported by the Department of Nature Conservation to have been exported from Indonesia: 1981 - 142, 1982 - nil, 1983 - nil, 1984 - 1. These figures agree exactly with those reported to CITES in 1981 and 1984 but not in 1982 and 1983.

It is unlikely that the present level of trade poses any threat to the species, although the large number from Malaysia in 1985 indicates that the level of trade needs continual monitoring.

CONSERVATION MEASURES The species may be expected to occur in several protected areas within its range.

Brunei Legal status not known.

Indonesia Not protected but capture and export are subject to licence. Annual harvest quotas have been set. The quota for 1984 was 3150 (Anon., 1984a), in 1985 it was 3000 (Anon., 1985) and in 1987 it was 300 (Anon., 1987a). No information has been provided explaining the basis for setting the quotas; apparently periodic population surveys are not carried out (Indonesia CITES MA, 1987; Milton and Marhadi, 1987).

Malaysia Not protected.

Singapore Capture, killing, keeping in captivity, import and export of all wild birds requires a licence under the Wild Animals and Birds Act, 1965.

Thailand Protected but capture and export are permitted under a quota system.

CAPTIVE BREEDING The species was reportedly first successfully bred in captivity in 1968; since then it has been bred on several occasions. Losses with newly imported birds in the genus *Loriculus* are reportedly high (Low, 1986a).

YELLOW-THROATED HANGING-PARROT

Recommended list: 2
[Possible problem]

Loriculus pusillus G.R. Gray, 1859

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Restricted to Java and Bali, Indonesia. Very little has been published about its status in the wild. In 1947 it was considered as probably not rare but easily overlooked in Java. Inhabits forests.

The recorded trade ranged from nil in 1984 and 1985 to 1316 in 1982, but 1200 of the latter were reported as exports by Malaysia, a non-range country. It is possible that the recorded trade from Malaysia is the result of misidentification. The species is not protected in Indonesia but capture and export are subject to licence.

Since the forest cover on Java and Bali has been considerably reduced in recent years, it is necessary to obtain current information on the status of this species before an assessment of the effects of trade is made.

DISTRIBUTION Restricted to Java and Bali, Indonesia.

Indonesia Java and Bali. Kuroda (1936) stated that it was found in all parts of Java. Hoogerwerf (1947) recorded it from several localities in West Java and from the Idjen Highlands in East Java. On Bali the species has been recorded at Bali Barat in the north-west and at up to 1200 m in the central highlands (at Bedugul and Tamblingan) (Ash, 1984). It was first recorded in the Bogor Botanical Gardens on 13 January 1986 (van Balen et al., 1988).

POPULATION No estimates of the total population size are available.

Indonesia Bartels (1902, 1906) noted it as common on Mt. Endoet, near Tjiboengoer and up to 1000 m on Mt. Pangerango. Hoogerwerf (1947, 1970) noted that its quiet and unobtrusive habits made it very difficult to estimate population densities, though considered it likely to be not rare in some localities. It has been recorded in Ujung Kulon Reserve on Java (Hoogerwerf, 1970) and Bali Barat National Park on Bali (Ash, 1984); Andrew (1986) thought it was probably no longer resident in the Cibodas-Gunung Gede Nature Reserve in West Java where it has been recorded in the past.

HABITAT AND ECOLOGY. Noted by Hoogerwerf (1947, 1970) as preferring well-forested areas and forest edge, where it lived amongst the foliage of trees and shrubs; in the Ujung Kulon Sanctuary it was recorded from sea level to 1500 m, showing a marked preference for the higher areas. Nests in a hollow or hole, generally in a treefern, but also in trees where it uses old woodpecker or barbet nests (Hoogerwerf, 1970). It has been observed feeding on the flowers of *Cassia siamea* and *Tamarindus indica* trees (Hoogerwerf, 1947, 1970).

THREATS TO SURVIVAL There is little information on threats to the species, though it is confined to the two most densely populated islands in Indonesia; its apparent preference for thickly wooded areas may well make it at risk from habitat destruction.

Loriculus pusillus

INTERNATIONAL TRADE All information on trade in *L. pusillus* is derived from annual reports to CITES.

Table 1. Apparent minimum net imports of *Loriculus pusillus* reported to CITES, 1981-1985.

	1981	1982	1983	1984	1985
Denmark	-	-	-	-	-
Germany, F.R.	-	-	185	-	-
Singapore	-	-	40	-	-
Switzerland	-	-	20	-	-
USA	50	116	150	-	-
Country Unknown	-	1200	-	-	-
TOTAL	50	1316	395	0	0

Table 2 Reported countries of origin or export for exports of live *L. pusillus* reported to CITES.

	1981	1982	1983	1984	1985
Country of origin within range of <i>L. pusillus</i>					
Indonesia	50	116	395	-	-
Country of origin outside range of <i>L. pusillus</i>					
Malaysia	-	1200	-	-	-

A total of 1761 birds were reported in trade in the period 1981-85; 1200 of these were exported from Malaysia, a non-range country, to unknown destinations in 1982. All the remainder originated in Indonesia (and were declared as exports by that country). The number of exports from Indonesia showed a steady increase from 1981 to 1983 but then dropped to nil in 1984 and 1985.

In the absence of any population data it is not possible to comment on the effects of trade on this species; however, its limited distribution and possible reliance on forested areas may be causes for concern.

CONSERVATION MEASURES

Indonesia The species is not protected in Indonesia but capture and export are subject to licence.

CAPTIVE BREEDING According to Low (1986a), the only recorded instance of captive breeding of this species was at Wassenaar Zoo in Holland in 1968 when two young were raised.

CHATTERING LORY

Recommended list: 2
[Possible problem]

Lorius garrulus Linné, 1758

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS The species is endemic to Indonesia and comprises three subspecies, which are restricted to Halmahera, Widi Islands, Ternate, Bacan, Obi, Morotai and Rau in northern Maluku. In 1980-81, it was found to be locally quite common on Halmahera, Ternate, Bacan and Morotai, but rare near human settlements and plantations. Mainly inhabits secondary forests but also seen in primary forests.

The recorded trade during 1981-1985 ranged from 1813 in 1981 to 7909 in 1983. The species is not protected although capture and export are subject to licence.

The species is popular in trade partly because of its imitative abilities and, although fairly widely distributed, local populations have probably been affected. Its status needs monitoring, particularly the subspecies *flavopalliatus* (Bacan and Obi) which is commonly traded and apparently now uncommon. It has recently been suggested that trade in this subspecies should be severely restricted or banned, until information is gathered on its population status.

DISTRIBUTION Endemic to northern Maluku, Indonesia where it is found on Halmahera, Bacan, Ternate, Morotai and smaller islands (Smiet, 1985).

L. g. garrulus Halmahera and Widi Islands (van Bemmelen, 1948); Ternate (Smiet, 1985).

L. g. flavopalliatus (Salvadori, 1877). Bacan and Obi (van Bemmelen, 1948).

L. g. morotaianus (van Bemmelen, 1940). Morotai and Rau (van Bemmelen, 1948).

POPULATION Lendon (1946) found it to be the commonest parrot on Morotai and Rau in 1945. According to Smiet (1985), the species was locally quite common in 1980/81 on Halmahera, Ternate, Bacan and Morotai but rare near human habitation and plantations. However, during a survey carried out on Bacan in July-August, 1985 this species was rarely encountered; it was concluded that the species was uncommon, and might soon become rare (Milton and Marhadi, 1987).

HABITAT AND ECOLOGY Primarily a coastal bird but also seen in primary forest on Bacan and Morotai (Smiet, 1985). Reported to feed mainly among flowering coconut palms on Morotai; usually seen in pairs (Lendon, 1946).

THREATS TO SURVIVAL The species is popular in trade partly because of its imitative abilities. Numbers are thought to have been diminished by trappers near human settlements and plantations. In 1983 this species accounted for 12% of the parrots exported from Maluku (Smiet, 1985). Low (1977) found that *L. g. flavopalliatus* was the most commonly traded of the subspecies, although *L. g. garrulus* was also widely traded. Milton and Marhadi (1987) found that this species was quickly removed from areas made accessible by timber harvesting operations; they recommended that consideration should be given to severely restricting or banning the trade from Bacan until information is gained on its population status.

Lorius garrulus

INTERNATIONAL TRADE Very popular in aviculture and the pet trade (Low, 1977). Listed in CITES Appendix II in 1981.

Table 1. Net imports of live *L. garrulus* reported to CITES. The totals provide an estimate of the minimum volume of world trade for each year.

	1981	1982	1983	1984	1985
Afghanistan	-	-	10	-	-
Aruba	-	-	-	-	8
Australia	-	-	4	-	-
Austria	-	4	10	-	-
Belgium	-	4	-	-	100
Botswana	-	-	-	-	30
Canada	-	4	30	80	40
China	-	230	-	-	-
Denmark	-	-	29	40	-
Ecuador	-	-	-	-	2
France	80	50	164	197	95
Germany, F.R.	391	288	507	161	-
Hong Kong	25	-	375	130	90
Iraq	-	-	-	2	-
Italy	85	25	175	156	-
Japan	347	190	609	489	176
Kuwait	-	40	120	-	-
Lebanon	-	-	-	10	-
Malaysia	50	-	377	630	153
Netherlands	-	-	43	2	102
Netherlands Antilles	-	-	2	-	-
Portugal	-	-	16	-	4
Saudi Arabia	1	-	11	10	-
Singapore	170	185	395	-	-
South Africa	-	-	6	32	-
Spain	-	20	30	-	-
Sweden	-	30	-	-	-
Switzerland	-	1	12	20	-
Taiwan	460	-	1362	1416	865
Thailand	-	85	165	340	30
Trinidad & Tobago	-	-	50	-	-
UAE	6	-	-	-	2
UK	8	55	300	150	50
USA	190	809	3115	1104	983
TOTAL	1813	2020	7909	5069	2800

The main importers were the USA, the Federal Republic of Germany and Taiwan. The volume of trade in 1983 was larger than that reported in any of the other years.

Lorius garrulus

Table 2. Reported country of origin, or where no origin is given, the exporter of the reported transactions. When animals have been exported to an intermediate country and subsequently re-exported, the minimum net trade was calculated, ensuring that the numbers were only recorded once.

	1981	1982	1983	1984	1985
Indonesia	1813	1866	7842	4735	2739
Countries without wild populations of <i>L. garrulus</i>					
Belgium	-	-	71	-	-
Germany, F.R.	-	1	1	-	-
Hong Kong	-	30	-	-	-
Japan	-	10	-	-	-
Malaysia	-	79	50	-	-
Netherlands	-	-	-	2*	-
Papua New Guinea	-	45	-	-	-
Philippines	-	-	2	-	-
Singapore	-	-	8	278	159
Sweden	-	-	-	-	40
Unknown	-	6	-	30	8

* = captive-bred

Most of the transactions summarised above, where Indonesia was not reported as the origin or exporter have probably been incorrectly reported. Very few of these birds were reported to have been bred in captivity. The above data can be compared with the numbers reported by the Department of Nature Conservation to have been exported from Indonesia: 1981 - 1515, 1982 - 1635, 1983 - 5122, 1984 - 3256 (Indonesia CITES MA, 1986). Some further figures from the same source are: 1984 - 3160, 1985 - 2679, 1986 - 2465 (Indonesia CITES MA, 1987). It is not known why there are two different figures for 1984. These figures show reasonable correlation with those reported to CITES in 1981, 1982 and 1985; however the number reported to CITES in 1983 and 1984 are larger than those reported by the Department of Nature Conservation.

In addition, records compiled by Balai Konservasi Sumber Daya Alam VIII for the period April 1983 through March 1985 (therefore only providing complete data for 1984) show the commercial harvest in Maluku of: 1983 - 5860, 1984 - 2144, 1985 - 136; and the number of parrots of this species exported from Maluku as souvenirs (live pets) by individuals: 1983 - 2050, 1984 - 2854, 1985 - 118 (R. Milton, *in litt.*, 1986). Combining these two sets of figures provides an estimate of the number harvested, however this does not include birds traded within Maluku, as a permit is not required for such transactions.

The volume of trade in 1984 reported by the Department of Nature Conservation of 3256 birds and the estimate of the number harvested in that year of 4998, are both within the harvest quota of 7500 set for that year (see below).

CONSERVATION MEASURES Not protected, however recent legislation requires permits to be obtained from the Director General of Forest Protection and Nature Conservation (PHPA), in order to legally catch, own, breed or transport non-protected wildlife species (Decree of the Minister of Forestry No. 66 Kpts-11/1983). Trade is monitored by the Directorate General of Forest Protection and Nature Conservation (PHPA), Directorate of Nature Conservation, Subdirectorate of Species Conservation (Bogor). Annual harvest quotas are set for each species (Milton and Marhadi, 1987). In 1984 the quota for this species was 7500 (Anon., 1984a), in 1985 it was 5000 (Anon., 1985) and in 1987 it was 2600 (Anon., 1987a). No information has been provided explaining the basis for setting the quotas; apparently periodic population surveys are not carried out (Indonesia CITES MA, 1987; Milton and Marhadi, 1987).

CAPTIVE BREEDING The first recorded breeding was in 1913 and since then the species has been bred in captivity on numerous occasions in a variety of countries, although not in particularly large numbers (Low, 1977; 1986a).

BLACK-HOODED PARAKEET
BLACK-HOODED CONURE

Recommended list: 2
[Possible problem]

Nandayus nenday (Vieillot, 1823)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Although this species has a distribution limited mostly to the pantanal of south-western Brazil, eastern Bolivia, Paraguay and northern Argentina, it is relatively numerous within this range. It has not been greatly affected by habitat disturbance, and continued exploitation is reported to have had little effect on the population. Favours open countryside with palm trees, and feeds on fruits, nuts and seeds. Has been reported to cause damage to crops. Common in captivity, and breeds readily.

Minimum net imports reported to CITES increased from 12 058 in 1981 to 39 257 in 1983 but then fell again to 23 146 in 1984 and 21 987 in 1985. Almost all of the birds were reported as having been exported from Argentina, although it is suggested that the majority actually originated in Paraguay. Banned from export from all range countries except Argentina, where it is classified as injurious.

This common species was reported in 1980 to have been little affected by relatively heavy exploitation, although the volume of trade increased to a high level in 1983, and the results of this may not have been fully felt yet. Claims that the majority of birds in trade were illegally smuggled from Paraguay should be investigated, and the impact of recently increased levels of trade on wild populations in Paraguay and Argentina should be monitored.

DISTRIBUTION Very small range, centred on the Pantanal: occurring in south-western Brazil, extreme south-eastern Bolivia and in a band no more than 200 km wide south through central Paraguay to northern Argentina.

Argentina Confined to Formosa, Chaco, northern Santa Fe and Corrientes (Forshaw and Cooper, 1978; Contreras, 1979). Olrog (1963b) stated that the supposed records from Misiones and Buenos Aires require confirmation.

Bolivia Confined to the extreme south-east of the country in south-eastern Santa Cruz (Bond and Meyer de Schauensee, 1943; Meyer de Schauensee, 1966). Reported from Bahia Blanca (Naumburg, 1930).

Brazil Found only in the Pantanal of south-western Mato Grosso in the flood-plain of the Paraguay River north to around Descalvados (Ridgely, 1982).

Canada Flocks of 20-200 feral birds have been observed in the vicinity of Windsor, Ontario (Long, 1981).

Paraguay Confined to a narrow (200-km) band along the Paraguay River in the centre of the country from which it extends much further west from the river than it does to the east (Ridgely, 1982). The range was reported to include Ytanu, Concepcion, Fort Wheeler, Fortin Page, lower Pilcomayo, Caraya Vuelta and Riacho Verde (Namburg, 1930).

Puerto Rico Introduced in the north-east (Isla Verde, Fajardo and Palmer) and the south-west (La Parguera) but recorded only in very small numbers and probably not established (Raffaale, 1983).

USA Feral breeding groups of escaped birds have been reported in California, New Jersey, Oahu (Hawaii) (Long, 1981), and New York (American Ornithologists' Union, 1983). Flocks of 20-200 birds have been observed in Detroit and Michigan (Long, 1981).

POPULATION Common and conspicuous in its limited range, centering on the Pantanal, where it is the most numerous parrot (Ridgely, 1979; 1982).

Argentina Said to be scarce in Santa Fe and relatively frequent around Ibera in Corrientes (Contreras, 1979). Navas (Argentina CITES MA, 1986) reported that it was scarce, and had not increased its population. Olrog (1984) said that it formed huge flocks in Argentina. Ridgely (1982) stated that it was common in eastern Chaco and Formosa where it is one of the more numerous and conspicuous parrots.

Bolivia Ridgely (1982) did not find it in seemingly appropriate habitat in south-eastern Santa Cruz in 1977 but thought that it may occur there seasonally.

Brazil Sick (1984) found it to be the most common psittacine in parts of Brazil, occurring in flocks of more than 100 individuals. Naumburg (1930) reported that it was very common at Fedegoso, east of Descalvados and Ridgely (1982) found it one of the more numerous parrots east of Carumba, especially east of the Paraguay River.

Paraguay Wetmore (1926) reported that it was fairly common near Puerto Pinasco. Ridgely (1982) described it as common along the Paraguay River, especially southward (west and north of Ascuncion).

HABITAT AND ECOLOGY. Frequents the pantanal, being particularly associated with palm trees, ranging into the chaco and adjacent campos. Congregates in vast flocks which may range far in the non-breeding season (Short, 1975). Food consists of seeds, fruits, nuts, berries and probably vegetable matter (Forshaw and Cooper, 1978). Usually feeds in palm trees, but occasionally on fallen nuts on the ground below (Wetmore, 1926). Has been reported as causing damage to maize and sunflower crops (see Forshaw and Cooper, 1978). Nesting has been reported in November in hollow fence posts (Naumburg, 1930) and palm trees (Short, 1975).

THREATS TO SURVIVAL Ridgely (1982) reported that the habitat of this species was virtually unmodified, except that much of it was used for low-intensity grazing, an activity which, he claimed, had little or no impact on the parrot. The large numbers exported to Paraguay had had no apparent impact on the population. Unger (in Steinbacher, 1962) reported that the settlement and agricultural development in Paraguay had benefitted the species. Navas (Argentina CITES MA, 1986) reported that the majority of this species in trade originated in Paraguay.

INTERNATIONAL TRADE Minimum net imports reported to CITES increased from 12 058 in 1981 to 39 257 in 1983 but then fell again to 23 146 in 1984 and 21 987 in 1985 (Table 1). The chief importers were the USA, Spain, Italy, Canada and F.R. Germany. Almost all the exports were reported as having originated in Argentina (Table 2), although Navas (Argentina CITES MA, 1986) claimed that the majority originated in Paraguay. A total of 21 176 "Aratinga spp" were reported to have originated in Argentina in 1981. It is

Nandayus nenday

possible that they referred to this species, which is sometimes called *Aratinga nenday*, and if this were so it would increase the trade in 1981 to levels comparable to those reported in 1982 and 1983.

Table 1. Minimum net imports of live *N. nenday* reported to CITES.

	1981	1982	1983	1984	1985
Austria	-	-	-	-	100
Belgium	-	50	70	30	-
Canada	129	100	450	852	329
China	-	10	10	-	-
Denmark	-	-	-	20	20
Egypt	-	-	-	-	500
France	-	-	-	-	270
Germany, F.R.	20	726	255	800	358
Greece	-	-	-	-	120
Hong Kong	-	-	-	-	100
Hungary	-	-	-	-	50
Italy	-	400	700	600	680
Japan	-	-	452	-	-
Kuwait	-	-	-	100	25
Libya	-	-	-	-	2
New Zealand	4	-	-	-	10
Netherlands	-	967	50	150	-
Netherlands Antilles	-	-	-	-	7
Poland	-	-	2	2	-
Portugal	-	50	50	-	12
Qatar	-	-	-	-	30
Saudi Arabia	-	-	-	60	80
South Africa	-	-	-	-	80
Spain	-	805	480	570	998
Sudan	-	-	-	40	-
Sweden	-	-	250	-	-
Switzerland	-	100	-	1	-
Taiwan	-	-	-	-	20
UAE	-	-	-	-	70
UK	-	-	-	-	250
USA	11855	23233	36257	19771	17646
USSR	-	-	-	-	100
Venezuela	-	250	50	-	50
Unknown	50	-	-	80	30
TOTAL	12058	26856	39257	23146	21987

Table 2. Reported countries of origin or export for exports of live *N. nenday* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>N. nenday</i>					
Argentina	12004	26856	39255	22632	21970
Bolivia	50	-	-	-	-
Countries without wild populations of <i>N. nenday</i>					
Australia	4	-	-	-	10*
German D.R.	-	-	2*	10*	-
Netherlands	-	-	-	-	7*
Uruguay	-	-	-	500	-
Unknown	-	-	-	1	2

* = captive-bred

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information was extracted from Fuller *et al.* (1987).

Argentina Considered a harmful species and therefore excluded from a general ban on trade in wildlife under Resolution No. 62 of 14 March 1986 (CITES Notification No. 412, 28 November 1986).

Bolivia All exports of live wildlife have been banned since 1 May 1984.

Brazil All exports of live wildlife have been prohibited since 1967.

Paraguay All exports of wildlife have been prohibited since 1975.

CAPTIVE BREEDING The species is very commonly kept as a pet, and nests readily in a colony system (Low, 1986a).

WHITE-BELLIED PARROT
WHITE-BELLIED CAIQUE

Recommended list: 2
[Possible problem]

Pionites leucogaster (Kuhl, 1820)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Widely distributed south of the Amazon in Brazil, northern Bolivia, the extreme east of Peru and possibly in Ecuador. Said to be relatively common over much of its range, but suffers from deforestation. Highest population densities are found in moist forest, particularly along watercourses.

Minimum net imports reported to CITES fell from 1045 in 1981 to 0 in 1985. All of the birds were reported to have originated in Bolivia. Currently prohibited from export from all countries in its range.

The ban on exports of live wildlife from Bolivia, imposed on 1 May, 1984, appears to have been effective in halting the trade, but the ban is reportedly temporary. The overall level of trade in earlier years was probably within sustainable limits, although the species is probably rarer in Bolivia than elsewhere in its range, and it is there that most of the trade originated.

DISTRIBUTION Found widely south of the Amazon River in Brazil across to northern Bolivia and eastern Peru. Three subspecies are recognised.

P. l. leucogaster (Kuhl)

Brazil Northern areas between the Amazon River in Belem, Para and north-eastern Mato Grosso west to around the Madeira River in eastern Amazonas. Specimens from the west of the range intergrade with *P. l. xanthurus* (Forshaw and Cooper, 1978; Novaes, 1981).

P. l. xanthurus (Todd)

Brazil South of the Amazon River, from the Machados River on the Rondonia-Amazonas border. Specimens from the east, around the Xingu River and Manaus intergrade with *P. l. leucogaster* (Forshaw and Cooper, 1978; Novaes, 1981).

P. l. xanthomeria (Sclater): southern bank of Amazon River in western Brazil to Peru and northern Bolivia and possibly Ecuador.

Bolivia Northernmost Bolivia, in the provinces of Beni (Forshaw and Cooper, 1978) and Santa Cruz, though in the latter it may have been extirpated by deforestation (Remsen et al., 1986). Ridgely (1982) thought that it was probably more widespread, perhaps occurring somewhat further south.

Brazil Western Amazonas, south of the Amazon River. Birds from the upper Jurua River show a tendency towards *P. l. xanthurus* (Forshaw and Cooper, 1978; Novaes, 1981).

Ecuador Forshaw and Cooper (1978) and Butler (1979) list it for Ecuador but Ridgely (1982) could not locate a definite locality for it within the present borders of Ecuador.

Peru Found in the extreme east, in the region of Rio Ucayali and in Madre de Dios (Novaes, 1981; O'Neill, 1981). Ridgely (1982) recorded it from south-eastern Peru and also from the extreme north-east, south of the Amazon River in northern Loreto.

POPULATION Ridgely (1982) described it as fairly common over most of its range.

Bolivia No good information, though Ridgely (1981) indicates that the species is less numerous in the drier forests to the south of its range. Remsen et al. (1986) expressed general fears about the status of forest bird species in northern Santa Cruz. Ridgely (1982) thought that it may be quite numerous in some areas of Beni.

Brazil The species has a wide range but is not normally common (P. Roth, *in litt.* 17 December 1985). Population declines may have occurred where there has been extensive deforestation (Ridgely, 1981). Recorded as fairly common in eastern Para and Maranhao, and thought to be probably equally so elsewhere, though less numerous towards the south of its range (Ridgely, 1982).

Peru O'Neill (1981) said it was common to abundant in eastern Peru, particularly the south, and more recently, Parker et al. (1982) described it as frequent in eastern Peru. Ridgely (1982) stated that it was fairly common to common in the south-east, less well known, and perhaps less numerous in the north-east.

HABITAT AND ECOLOGY. Occurs in forest and forest edge of both varzea and tierra firma forest (Ridgely, 1981), but preferring trees near water courses. They are usually seen in pairs or small flocks. They keep to the canopy, where they feed on fruits, berries and seeds. Nesting has been reported in January in Para in a hollow tree (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Deforestation has been reported to have reduced populations locally, but the limited export trade up to 1980 was said to have had no impact (Ridgely, 1981). There was said to be no present danger in Peru (O'Neill, 1981). In north-eastern Santa Cruz, Bolivia, Remsen et al. (1986) reported that massive deforestation projects were a serious threat to many species.

INTERNATIONAL TRADE Minimum net imports reported to CITES fell from 1045 in 1981 to 5 in 1984 and 0 in 1985 (Table 1). The chief importer was the USA. All of the birds were reported to have originated in Bolivia. Export figures supplied by the Santa Cruz regional wildlife management authority show that from 1980 to 1983 a total of 2475 *P. leucogaster* were exported from Bolivia, indicating that the CITES figures may have underestimated the true level of trade.

Pionites leucogaster

Table 1. Minimum net imports of live *P. leucogaster* reported to CITES.

	1981	1982	1983	1984	1985
Germany F.R.	73	-	-	-	-
Italy	-	-	26	-	-
South Africa	3	-	-	-	-
Switzerland	4	-	-	-	-
UK	-	10	-	-	-
USA	515	335	8	5	-
Unknown	450	-	-	-	-
TOTAL	1045	345	34	5	0

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information is mainly extracted from Fuller *et al.* (1987).

Bolivia All exports of live wildlife have been banned since 1 May 1984.

Brazil All exports of live wildlife have been prohibited since 1967.

Ecuador All exports of indigenous wildlife have been prohibited since January 1983 except for scientific and educational purposes.

Peru All trade in wildlife from the Selva region has been prohibited since 1973. Not included in a list of species allowed for export (CITES Notification to the Parties No. 389, 7 May 1986).

CAPTIVE BREEDING The species is not widely kept as a pet, and has been bred in captivity on only a few occasions (Low, 1986a).

ORANGE-CHEEKED PARROT

Recommended list: 3
[No problem]

Pionopsitta barrabandi (Kuhl, 1820)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A little-known parrot from the lowland forests of western Brazil, southern Venezuela, Colombia, Peru, Ecuador and northern Bolivia. Uncommon and probably never numerous, even in undisturbed habitat.

Minimum net imports reported to CITES amounted to 684 in 1981 and 50 in 1983, with none reported in 1982, 1984 or 1985. All exports originated in Bolivia, except for a single shipment of 376 birds reported as an import to the USA from Honduras in 1981. Protected or banned from export in all range countries.

The species does not occur in Honduras, and so this may represent mis-identification, in which case the total reported trade would be halved. It is, however, possible that Honduras is acting as an entrepot for parrot exports from other Latin American countries. The total level of trade cannot be considered threatening to such a widespread species, although no trade should be permitted in future, as it is protected or banned from export in all countries of origin.

DISTRIBUTION From southern Venezuela through western Brazil, south-eastern Colombia, eastern Ecuador and eastern Peru, to northern Bolivia.

P. b. barrabandi (Kuhl): Distributed north of the upper Amazon River in Brazil and in southern Venezuela, west to south-eastern Colombia; probably intergrades with *P. b. aurantiigena* in northernmost Peru and north-eastern Ecuador.

Brazil North of the upper Amazon River, from the lower Rio Negro region and eastern Amazonas (Forshaw and Cooper, 1978; Ridgely, 1982).

Colombia South-eastern Colombia as far north as Caqueta (Forshaw and Cooper, 1978) Hilty and Brown (1986) described the distribution as north-eastern Guainia and Caqueta southward.

Ecuador Probably intergrades with *P. b. aurantiigena* in the north-east (Forshaw and Cooper, 1978).

Peru Probably intergrades with *P. b. aurantiigena* in the north (Forshaw and Cooper, 1978).

Venezuela Found in the south, in central and southern Bolivar and southern Amazonas (Meyer de Schauensee and Phelps, 1978).

P. b. aurantiigena Gyldenstolpe: Found south of the upper Amazon from the Rio Madeira in Brazil across to northern Bolivia, north-eastern Peru and eastern Ecuador.

Bolivia Recorded once from Tumi Chucua, in Beni (Remsen and Ridgely, 1980).

Pionopsitta barrabandi

Brazil South of the upper Amazon River, from the Madeira region of Amazonas westwards (Forshaw and Cooper, 1978). The distribution has been said to include north-western Mato Grosso, but this is apparently not based on any specimens collected (Naumburg, 1930).

Ecuador Confined to the east (Forshaw and Cooper, 1978).

Peru Confined to the north-east, as far south as the Curanja River in Loreto (Forshaw and Cooper, 1978).

POPULATION Ridgely (1981) described the species as uncommon to locally fairly common, though probably never numerous, even in undisturbed habitat. He considered the population to be essentially stable. Gyldenstolpe (1951) described it as rare and locally distributed within its wide range.

Bolivia The only record is from Tumi Chucua, in Beni (Remsen and Ridgely, 1980), and so it must be at least local, if not rare.

Brazil Very little information available. (Ridgely (1982) stated that it was probably uncommon and perhaps local in Brazil.

Colombia Dugand and Borrero (1946) report it has only rarely been collected in Colombia. Hilty and Brown (1986) stated that it was uncommon in most areas but 'common locally'.

Ecuador Listed as rarely seen (Butler, 1979) Uncommon and apparently somewhat local (Ridgely, 1982).

Peru O'Neill (1981) described this species as uncommon to common locally, though its true status was unknown. He found it to be an uncommon resident in the vicinity of Balta, Peru (O'Neill, 1974). Listed as uncommon in the Manu National Park (Terborgh et al., 1984). Parker et al. (1982) reported it to be frequent in humid tropical zones of eastern Peru.

Venezuela Phelps and Phelps (1958, see Forshaw and Cooper, 1978) reported that it was locally distributed in southern Venezuela.

HABITAT AND ECOLOGY Very little is known of this species. It is found only in lowlands below 400 m, favours tierra firma forest and according to Ridgely (1981) rather strictly avoids varzea and secondary growth. It is usually seen high in the forest canopy, where it may have a preference for palm trees, feeding on fruits, berries and seeds (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL O'Neill (1981) reported that there was no serious persecution of this species in Peru. Ridgely (1981) pointed out that several large areas in its range were protected as national parks, particularly in Peru and Ecuador.

INTERNATIONAL TRADE Minimum net imports reported to CITES amounted to 684 in 1981 and 50 in 1983, with none reported in 1982, 1984 or 1985. The only importing countries were Italy, F.R. Germany and the USA. All exports originated in Bolivia, except for a single shipment of 376 birds reported as an import to the USA from Honduras in 1981. The species does not occur in Honduras, and so this may represent mis-identification, in which case the total reported trade would be halved. It is, however, possible that Honduras

Pionopsitta barrabandi

is acting as an entrepot for parrot exports from other Latin American countries. Export figures supplied by the Santa Cruz regional wildlife management authority show that from 1980 to 1983 a total of 155 *P. barrabandi* were exported from Bolivia.

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information is from Fuller et al. (1987) unless otherwise indicated.

Bolivia All exports of live wildlife have been banned since 1 May 1984.

Brazil All wildlife exports have been banned since 1967.

Colombia Commercial hunting of all birds has been prohibited since 1973 under Resolucion No. 849.

Ecuador All exports of indigenous wildlife have been prohibited since January 1983, except for educational or scientific purposes.

Peru All commercial hunting of wildlife in the Selva region, east of the Andes has been prohibited since 1973. Not included in a list of species allowed for export (CITES Notification to the Parties No. 389).

Venezuela With few exceptions, all hunting of indigenous wildlife has been prohibited since 1970.

CAPTIVE BREEDING The species has been reported not to occur in captivity (Low, 1986a; Ridgely, 1982). Roth (*in litt.*, 17 December, 1985) considered it to be very difficult to adapt to captivity, and susceptible to heavy mortality when transported.

Table 1. Minimum net imports of live *P. barrabandi* reported to CITES.

	1981	1982	1983	1984	1985
Germany, F.R.	4	-	-	-	-
Italy	-	-	50	-	-
USA	376	-	-	-	-
Unknown	304	-	-	-	-
TOTAL	684	0	50	0	0

Pionopsitta barrabandi

Table 2. Reported countries of origin or export for exports of live *P. barrabandi* reported to CITES.

	1981	1982	1983	1984	1985
<hr/>					
<i>Countries with populations of P. barrabandi</i>					
Bolivia	308	-	50	-	-
<i>Countries without wild populations of P. barrabandi</i>					
Honduras	376	-	-	-	-

BRONZE-WINGED PARROT

Recommended list: 3

[No problem]

Pionus chalcopterus (Fraser, 1840)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Found principally to the west of the Andes, from Venezuela to northern Peru. Locally common in Ecuador and southern Colombia, but substantial population declines have occurred as a result of extensive forest destruction. Inhabits forests, mainly between 500 and 2000 m.

Minimum net imports reported to CITES decreased from 317 in 1981 to 127 in 1985. Until 1985 the majority of the exports apparently originated in Ecuador, with only six from Peru. In 1985 all of the birds in trade were recorded as originating in Peru. Protected or banned from export in all range countries except Peru, where an export quota is in force.

The total level of trade is not excessive, as it mostly originates in Ecuador, where the highest remaining populations are to be found. However all commercial exports from Ecuador have been prohibited since 16 February, 1983, and so the exports in 1984 were presumably illegal.

DISTRIBUTION Found in north-western Venezuela, western Colombia, Ecuador and north-western Peru. Two (doubtfully distinct) subspecies have been recognised (Forshaw and Cooper, 1978).

P. c. chalcopterus (Fraser): Found in the mountains of north-western Venezuela and Colombia.

Colombia In the Andes of Colombia except Narino (Forshaw and Cooper, 1978), mainly on the slopes above the Cauca and Magdalena Valleys, but absent from the Pacific slopes of the Andes north of Nasino and from the eastern side of the eastern cordillera (Ridgely, 1982). Recorded at Finca Merenberg, Huila, probably as an altitudinal migrant; also at the head of the Magdalena Valley and La Candela (Ridgely and Gaulin, 1980).

Venezuela Widespread in the Sierra de Perija, Zulia, along the Colombian border. Described as *P. c. cyanescens* by Meyer de Schauensee and Phelps (1978).

P. c. cyanescens Meyer de Schauensee: Ranges from north-western Peru through western Ecuador to south-western Colombia.

Colombia Confined to Narino in south-western Colombia (Forshaw and Cooper, 1978).

Ecuador Found west of the Andes, virtually down to sea level (Ridgely, 1981).

Peru Confined to north-west Peru in Tumbes and perhaps Piura (O'Neill, 1981; Ridgely, 1981).

POPULATION Ridgely (1982) said it ranged from uncommon to fairly common or common; probably most numerous in parts of western Ecuador, but substantial

Pionus chalcopterus

population declines had occurred almost everywhere, especially in parts of Colombia, as a result of deforestation. Population monitoring was considered necessary, although it was not thought threatened overall.

Colombia Hilty (1985) included this on the Colombian "Blue list" of species with declining populations. Ridgely (1981) reported it to be locally common in Narino, but considerably less numerous elsewhere. Extensive deforestation is thought to have caused widespread population declines. It has been reported seasonally in some numbers at Cueva de los Guacharos National Park in Huila, and in a few localities in western Vale on the east slope of the western Andes (Ridgely, 1981). Rare at Finca Merenberg, Huila, probably as an altitudinal migrant (Ridgely and Gaulin, 1980).

Ecuador Ridgely (1981) described it as fairly common to locally common in remaining areas of suitable habitat, particularly along the base of the mountains and in the lower foothills, but said that a substantial overall population decline had occurred as a result of widespread deforestation. Leck (1979) found the species to be frequent at Rio Palenque in 1978. Butler (1979) described it as abundant.

Peru Parker et al. (1982) described the species as uncommon in the northern part of Peru. Described as fairly common locally in Tumbes (O'Neill, 1981), but found to be rare at El Caucho, near the Ecuador border (Wiedenfeld et al., 1985).

Venezuela Confined to a remote area of Zulia, where the habitat is thought to have been little disturbed (Ridgely, 1981).

HABITAT AND ECOLOGY. Found principally in forests in the upper tropical and lower subtropical forest zones, mainly between 500 and 2000 m, but is also found regularly in clearings and partially deforested regions (Ridgely, 1981). It is generally seen in pairs or small flocks, and feeds, among other things, on seeds. Breeding has been reported in Venezuela in March in a hollow tree (Forshaw and Cooper, 1978). At least in Colombia it is reportedly nomadic and seasonal in its appearance in many areas (Ridgely, 1982).

THREATS TO SURVIVAL Deforestation leading to loss of habitat has occurred extensively in Ecuador and Colombia and possibly Peru (Ridgely, 1981). In Peru, O'Neill (1981) asserts that the species could become endangered if the limited remaining forest were cut. However this is now in a National Forest and a military zone and is secure for the time being. The forest in Ecuador on the Peruvian border has already been destroyed.

INTERNATIONAL TRADE Minimum net imports reported to CITES decreased from 317 in 1981 to 127 in 1985 (Table 1). The chief importers were the USA, F.R. Germany and the Netherlands. The majority of the exports before 1985 apparently originated in Ecuador, with only six from Peru in 1984 (Table 2), but all of the trade recorded in 1985 was from Peru.

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information is from Fuller et al. (1987) unless otherwise indicated.

Colombia Commercial hunting of all birds has been prohibited since 1973 under Resolucion No. 849.

Pionus chalcopterus

Ecuador All exports of indigenous wildlife have been prohibited since 1983, except for educational or scientific purposes.

Peru Annual quotas for the export of this species have been set under Resolucion Directoral No. 014-83-DGFF in 1983. The quotas for the years 1984, 1985 and 1986 were 90, 590 and 2000 respectively (Peru CITES MA, 1987).

Venezuela With few exceptions, all hunting of indigenous wildlife has been prohibited since 1970.

CAPTIVE BREEDING The species has never been common in captivity, but may breed with some difficulty, even in small aviaries (Low, 1986a).

Table 1. Minimum net imports of live *P. chalcopterus* reported to CITES.

	1981	1982	1983	1984	1985
Austria	-	-	-	-	14
Belgium	10	15	-	-	10
Denmark	-	-	-	-	27
Dominican Republic	-	2	-	-	-
France	11	3	-	-	-
Germany, F.R.	187	61	-	-	36
Japan	-	-	-	52	-
Netherlands	85	-	-	-	-
South Africa	-	7	10	-	10
Switzerland	5	4	-	-	-
UK	15	-	-	-	-
USA	4	139	47	79	30
TOTAL	317	231	57	131	127

Table 2. Reported countries of origin or export for exports of live *P. chalcopterus* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>P. chalcopterus</i>					
Ecuador	317	231	56	113	-
Peru	-	-	-	6	127
Countries without wild populations of <i>P. chalcopterus</i>					
Belgium	-	-	1	-	-
Netherlands	-	-	-	12*	-
Unknown	-	2	-	-	-

* = captive-bred

SCALY-HEADED PARROT,

Recommended list: 2*
[Possible problem]

Pionus maximiliani (Kuhl, 1820)

Order PSITTACIFORMES

Family PSITTACIDAE

* but see last paragraph of summary.

SUMMARY AND CONCLUSIONS A relatively common species, with a wide distribution in the lowlands of south-eastern Brazil, Bolivia, Paraguay and northern Argentina; described as one of the two most common parrots in the area. Inhabits primarily woodland, where it feeds on fruits, berries and seeds. Populations are generally stable but may have suffered as a result of deforestation, and are slowly declining in Argentina. Has bred occasionally in captivity.

Minimum net imports reported to CITES increased each year from 830 in 1981 to 3220 in 1984 and then increased markedly to 25 596 in 1985. The majority of the exports apparently originated in Argentina. Banned from export from all countries of origin.

This species can undoubtedly sustain a substantial level of trade, but the effects of the sharply increasing exports from Argentina up to 1985 should be monitored with care, particularly in view of the reports that the species may be slowly declining in the country. Investigation of intraspecific variation and division into subspecies should facilitate the verification of reported countries of origin. No trade in this species should have been allowed after the introduction of the general export ban in Argentina in 1986.

DISTRIBUTION North-eastern Argentina, most of eastern and southern Brazil, eastern and northern Paraguay and south-eastern Bolivia (Ridgely, 1982). Four subspecies have been recognised:

P. m. maximiliani (Kuhl):

Brazil Restricted to north-eastern areas, south of the Amazon: Pernambuco, Bahia, northern Goiás, northern Minas Gerais, Espírito Santo, possibly including Piauí and the extreme east of Mato Grosso (Smith, 1960).

P. m. melanoblepharus Ribeiro: Southern/central Brazil to eastern Paraguay and northern Argentina

Argentina Misiones and Corrientes (Smith, 1960).

Brazil Extreme southern Goiás, southern Minas Gerais, southern Espírito Santo, Rio de Janeiro, São Paulo, Santa Catarina, Paraná and Rio Grande do Sul. Intergrades with *P. m. siy* in western Minas Gerais (Smith, 1960) and in eastern Mato Grosso (Forshaw and Cooper, 1978).

Paraguay Found in the extreme east, where it intergrades with *P. m. siy* (Smith, 1960).

P. m. siy Savanéé: Occurs in Mato Grosso, Brazil, central and eastern Bolivia, western Paraguay and northern Argentina

Argentina In the provinces of Formosa and Chaco, where it intergrades with *P. m. lacerus*, and possibly also Jujuy, though this is doubtful (Smith, 1960).

Bolivia Central and eastern Bolivia (Smith, 1960). Recorded from Buenavista (Bond and Meyer de Schauensee, 1943) and near Bermejo, in the south (Nores and Yzurieta, 1984b). Recorded from near San José de los Chiquitos, Santa Cruz (Olrog, 1963a), and Tatarenda, Santa Cruz (Lönnerberg, 1903).

Brazil Goiás, western Mato Grosso; intergrades with *P. m. melanoblepharus* in the east (Smith, 1960). Belton (1984) suggests that this subspecies may occur in the west of Rio Grande do Sul.

Paraguay At least as far south as 26°S, excluding the extreme east (Smith, 1960).

P. m. lacerus (Heine):

Argentina Confined to north-western areas in Salta and Tucuman, and probably also Santiago del Estero, Catamarca (Smith, 1960) and Chaco (Short, 1975). In the provinces of Formosa and Chaco it intergrades with *P. m. sly* (Smith, 1960).

Bolivia Bond and Meyer de Schauensee (1943) recorded this subspecies from southern Bolivia (Rio Lipeo, Villa Montes, Rio Azero) but Smith (1960) did not comment on this.

POPULATION Believed to be still fairly common to common over most of its range, although deforestation has caused some decline in numbers (Ridgely, 1982). One of the two most widespread and numerous parrots in the region (Ridgely, 1981).

Argentina Said to be slowly declining in numbers, but not in danger of extinction (Argentina CITES MA, 1986). Olrog (1984) said it often forms big flocks. Ridgely (1982) described it as common on lower Andean slopes.

Bolivia Eisentraut reported in 1935 (see Forshaw and Cooper, 1978) that the species was seldom seen near Villa Montes, and not at all further down the Rio Pilcomayo. Nores and Yzurieta (1984b) found flocks of four and 30 near Bermejo and Rio Itau in the south. Olrog (1963a) described the species as common near San José de los Chiquitos, Santa Cruz. Ridgely (1982) recorded it as fairly common throughout its range in the country.

Brazil Stager (1961) reported that the species was fairly plentiful in gallery forest in central Goiás. Said in 1935 to have been one of the commonest parrots in Bahia (Pinto, 1935, see Forshaw and Cooper, 1978). Sick and Pabst (1963) said it still occurred in the forests of Guanabara, though in reduced numbers. Forshaw (Forshaw and Cooper, 1978) found it to be quite common in north-eastern Rio Grande do Sul in southern Brazil when he visited the area in 1971; Belton (1984) described it as a moderately common permanent resident in Rio Grande do Sul, where it still occurs in substantial flocks. Scott and Brooke (1985) described the species as fairly common in Sooretama Biological Reserve, Espirito Santo, Poço das Antas Biological Reserve and Serra dos Orgaos National Park, Rio de Janeiro; and common in Serra do Tingua and Serra da Siberia, Rio de Janeiro. Ridgely (1982) stated that it varies from being uncommon in more disturbed regions, and northwards to common locally (in the coastal mountains of the south-east).

Paraguay Said by both Wetmore (1926) and Naumburg (1930) to be common at Puerto Pinasco, and frequently seen at Fort Wheeler (Naumburg, 1930). Ridgely (1982) described it as common to fairly common in most of eastern Paraguay, becoming somewhat less numerous westward towards the Paraguay River.

Pionus maximiliani

HABITAT AND ECOLOGY Found mainly in lowland forest and open woodland, particularly deciduous and gallery woodland, but also occurs in caatinga and the northern Chaco. Ranges up to 1500 m in south-eastern Brazil (Ridgely, 1981) and 2000 m in Argentina (Olrog, 1984). Usually seen in pairs or flocks of up to 50. Feeds on fruits, berries, seeds and probably blossoms, procured in the tree tops, and is reported to be particularly fond of wild figs and *Araucaria* nuts. Has been reported as nesting in Paraguay in a hollow tree in October (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL The species is relatively tolerant of disturbed conditions, but has still suffered population declines in southern Brazil as a result of deforestation (Ridgely, 1981).

INTERNATIONAL TRADE Minimum net imports reported to CITES increased from 830 in 1981 to 3220 in 1984 and markedly to 25 596 in 1985 (Table 1). The chief importers were F.R. Germany and the USA. The majority of the exports apparently originated in Argentina, but prior to 1984 about 200 a year were reported as exports from Bolivia in 1984 (Table 2). Export figures supplied by the Santa Cruz regional wildlife management authority show that from 1980 to 1983 a total of 1914 *P. maximiliani* were exported from Bolivia, indicating that the CITES figures may have under-estimated the true level of trade.

Table 1. Minimum net imports of live *P. maximiliani* reported to CITES.

	1981	1982	1983	1984	1985
Austria	-	-	-	100	100
Belgium	-	-	170	-	-
Canada	-	-	8	50	105
China	-	-	2	-	21
Cyprus	-	-	-	3	-
Denmark	-	-	10	-	75
France	-	-	16	60	597
Germany, F.R.	206	423	194	687	2140
Greece	-	-	-	-	85
Hungary	-	-	-	-	100
Italy	-	-	200	-	610
Japan	-	-	25	25	530
Kuwait	-	-	-	-	130
Malta	-	-	-	-	35
Portugal	-	-	10	-	41
Qatar	-	-	-	-	15
Saudi Arabia	-	-	-	20	640
Singapore	-	-	-	100	220
South Africa	1	-	-	-	298
Spain	12	12	5	105	483
Sweden	-	100	781	350	46
Switzerland	6	-	-	-	-
Taiwan	-	-	-	120	110
UAE	-	-	-	-	60
UK	60	-	-	-	370
USA	545	1285	501	1600	18 783
Zimbabwe	-	-	-	-	2
TOTAL	830	1820	1922	3220	25 596

Table 2. Reported countries of origin or export for exports of live *P. maximiliani* reported to CITES.

	1981	1982	1983	1984	1985
<hr/>					
Countries having or possibly having populations of <i>P. maximiliani</i> .					
Argentina	612	1608	1756	3220	25 596
Bolivia	218	212	166	-	-
Countries without wild populations of <i>P. maximiliani</i>					
South Africa	-	-	-	-	2*
Unknown	-	-	-	-	100

* = captive-bred

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information is from Fuller *et al.* (1987) unless otherwise indicated.

Argentina Included in a general ban on trade in wildlife under Resolution No. 62 of 14 March 1986 (CITES Notification to the Parties No. 412, 28 November 1986).

Bolivia All exports of live wildlife have been banned since 1 May 1984.

Brazil All exports of live wildlife have been prohibited since 1967.

Paraguay All exports of wildlife have been prohibited since 1975.

CAPTIVE BREEDING The species is kept sporadically as a pet, but cannot be described as rare in captivity, and has been bred in captivity in several countries (Low, 1986a).

RED-BILLED PARROT

Recommended list: 3
[No problem]

Pionus sordidus (Linné, 1758)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Widely, though discontinuously distributed from northern Venezuela through Colombia, Ecuador and eastern Peru to northern Bolivia, mostly on the eastern slopes of the Andes, but populations are found to the west in Colombia and Ecuador. Fairly common, at least locally, but some populations may have declined, particularly that in western Ecuador. Inhabits chiefly moist forest at moderate altitudes, primarily between 500 and 2000 m, and generally absent from the Amazonian lowlands.

Minimum net imports reported to CITES decreased from 201 in 1982 to zero in 1984 and 2 in 1985. All exports of wild birds, where the source was known, originated in Ecuador. Now protected or banned from export in all countries of origin.

The export ban in Ecuador, imposed in 1983, appears to have been successful in halting the trade.

DISTRIBUTION Found from northern Venezuela west into northern Colombia south along eastern Andes through Ecuador and eastern Peru to northern Bolivia (Ridgely, 1981).

P. s. sordidus (Linné):

Venezuela North-western Venezuela (Forshaw and Cooper, 1978) from the mountains of Falcon and Lara through the coastal cordillera to the Distrito Federal (Meyer de Schauensee and Phelps, 1978).

P. s. antellius Avelado and Ginés:

Venezuela Found in the coastal cordillera in Anzoategui, Sucre and northern Monagas (Meyer de Schauensee and Phelps, 1978).

P. s. ponsi Avelado and Ginés:

Venezuela Recorded in the Sierra de Perija in Zulia (Meyer de Schauensee and Phelps, 1978) and neighbouring Magdalena in northern Colombia west to the Sierra Nevada foothills (Forshaw and Cooper, 1978).

P. s. saturatus Todd:

Colombia Confined to the Sierra Nevada de Santa Marta in Magdalena, northern Colombia (Forshaw and Cooper, 1978). The species has also been recorded from the Sierra de Perija (Ridgely, 1982).

P. s. corallinus Bonaparte: ranges from eastern Andes in Colombia down through eastern Ecuador and Peru to northern Bolivia (Forshaw and Cooper, 1978).

Bolivia Found in the north of the country. Recorded from Incachaca (Cochabamba) and Samaipata (Santa Cruz) (Bond and Meyer de Schauensee, 1943), Irupana (La Paz) and Pojo (Cochabamba) (Niethammer, 1953, see Forshaw and Cooper, 1978). Recorded at Carahuasi, Cochabamba (Olrog, 1963a).

Colombia Found in the eastern Andes (Forshaw and Cooper, 1978). Reportedly sighted at Cueva de los Guacharos National Park in Huila but no other records are known from the eastern Andes (Ridgely, 1982).

Ecuador Recorded locally along the entire east slope from Napa south to Zamora-Chinchipec (Ridgely, 1982).

Peru Found in the eastern Andes, but absent from the lowlands of Loreto, and not recorded from southern Peru (Forshaw and Cooper, 1978), although Ridgely (1982) thought that it may occur there.

P. s. mindoensis Chapman:

Ecuador Known only from the mountains of western Ecuador (Forshaw and Cooper, 1978). Bond and Meyer de Schauensee (1943) suggest it is probably not distinct from *corallinus*. Ranges from Pichincha to El Oro (Ridgely, 1982). Leck (1979) reported that this species had not been recorded in recent years from Rio Palenque, 47 km south of Santo Domingo de los Colorados.

POPULATION Ridgely (1981) described the species as fairly common and conspicuous in most of its range, although saying that the overall population size had declined slightly. Forshaw and Cooper (1978) believes it to be local in occurrence. Meyer de Schauensee and Phelps (1978) say it may be found in flocks of 2 to 50 birds in Venezuela.

Bolivia In the eastern foothills of the Andes in northern Bolivia *P. sordidus* was reported to one of the most common parrots, though easily overlooked. At Irupana (La Paz) and Pojo (Cochabamba) *P. sordidus* and *Pyrrhura molinae* were reported to be the dominant species (Niethammer, 1953, see Forshaw and Cooper, 1978). Ridgely (1981) considered it to be comparatively less numerous in Bolivia than elsewhere. Olrog (1963a) described the species as abundant along the river margins in humid forests in Cochabamba.

Colombia Fairly common in the Santa Marta region, even in areas now mostly converted to coffee cultivation; thought to always have been rare or local in the eastern Andes (Ridgely, 1982).

Ecuador Said to be comparatively less numerous in the west (Ridgely, 1981), where it may be locally extinct (Leck, 1979). Ridgely (1982) described it as uncommon to fairly common along both slopes, perhaps more numerous in the south-east.

Peru O'Neill (1981) described it as locally common, but true status unknown. Parker et al. (1982) list it as common in humid upper tropical zones of Peru and frequent in humid subtropical areas. Reported to be common 80 km north-west of Rioja, San Martin (Parker and Parker, 1982), and uncommon in the Huancabamba region, Pasco (Parker et al., 1985).

Venezuela Said to have been common at Rancho Grande Reserve (Beebe, 1947, see Forshaw and Cooper, 1978). Ridgely (1982) described it as locally fairly common, at least in the coastal mountains of Aragua and the Distrito Federal; numbers on the Paria Peninsula may be reduced owing to extensive deforestation.

HABITAT AND ECOLOGY. Inhabits moist mountain forests and forest edges, sometimes coming into clearings to feed, most commonly between 500 and 1500 m (Ridgely, 1981), but up to at least 2000 m in Bolivia. Usually seen in pairs or flocks of up to forty, and feeds on fruits, berries and seeds, procured in

Pionus sordidus

the tree tops. Nesting in Venezuela has been reported to occur at the end of the dry season (April), and in Bolivia in October (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Deforestation leading to loss of habitat has doubtlessly led to some declines, particularly in Venezuela and Colombia, although the species is probably capable of persisting in somewhat disturbed regions (Ridgely, 1981). O'Neill (1981) considered that the species was probably not persecuted, saying that it normally occurred in wet forest not used for agriculture.

INTERNATIONAL TRADE Minimum net imports reported to CITES decreased from 201 in 1982 to zero in 1984 and 2 in 1985 (Table 1). The chief importers were F.R. Germany and the USA. All exports of wild birds, where the source was known, originated in Ecuador (Table 2). However export figures supplied by the Santa Cruz regional wildlife management authority show that from 1980 to 1983 a total of 30 *P. sordidus* were exported from Bolivia. Although the export ban from Ecuador seems to have taken two years to take effect, it now appears now to have been successful in halting the trade.

CONSERVATION MEASURES All of the range states are Parties to CITES. The information below is mainly extracted from Fuller *et al.* (1987).

Bolivia All exports of live wildlife have been banned since 1 May 1984.

Colombia Commercial hunting of all birds has been prohibited since 1973 under Resolucion No. 849.

Ecuador All exports of indigenous wildlife have been prohibited since January 1983, except for educational or scientific purposes.

Peru All commercial hunting of wildlife in the Selva region, east of the Andes has been prohibited since 1973. Not included in a list of species allowed for export (CITES Notification to the Parties No. 389, 7 May 1986).

Venezuela With few exceptions, all hunting of indigenous wildlife has been prohibited since 1970.

CAPTIVE BREEDING The species is rather rare in captivity, and only one successful breeding was recorded. It may be confused with *Pionus maximiliani* (Low, 1986a).

Table 1. Minimum net imports of live *P. sordidus* reported to CITES.

	1981	1982	1983	1984	1985
Belgium	-	28	-	-	-
Canada	-	-	-	-	2*
Dominican Republic	-	2	-	-	-
Germany, F.R.	62	89	-	-	-
Netherlands	19	-	-	-	-
South Africa	-	-	6	-	-
Spain	-	4	-	-	-
Switzerland	14	2	-	-	-
UK	7	-	-	-	-
USA	-	76	3	-	-
TOTAL	102	201	10	0	2

Table 2. Reported countries of origin or export for exports of live *P. sordidus* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>P. sordidus</i>					
Ecuador	102	201	10	-	-
Countries without wild populations of <i>P. sordidus</i>					
Belgium	-	2 *	-	-	-
UK	-	-	-	-	2*
Unknown	-	2	-	-	-

* = captive-bred

SENEGAL PARROT
YELLOW-BELLIED PARROT

Recommended list: 2
[Possible problem]

Poicephalus senegalus (Linné, 1766)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS This species comprises two or three subspecies and is confined to West Africa. It occurs in Mauritania, Senegal, Gambia, Guinea-Bissau, Guinea, Mali, Ivory Coast, Burkina, Ghana, Togo, Benin, Nigeria, Cameroon, Niger, Chad and possibly in Liberia. In all countries for which status assessments exist it has been regarded as common or fairly common, except at the eastern end of its range in Chad where it was considered to be rare in 1952. In Liberia three specimens were collected in 1975 but it is not certain that they originated in that country. Inhabits savannah woodland and open forest.

The recorded trade during 1981-85 ranged from 8249 in 1981 to 22 857 in 1982, mostly originating in Senegal and, to a lesser extent, Mali. Small numbers were exported by Liberia and Ghana. The species is protected in the Gambia, Guinea-Bissau, Mauritania and Nigeria (only from April 1985); export from Ghana was banned until 30 June, 1982. Exports from Senegal are subject to a quota system.

The present level of trade is unlikely to affect the species overall but the large numbers exported by Senegal could be affecting local populations, especially in the north of the country where extensive droughts have affected many bird species. More information is required to assess the effectiveness of the export quota system in operation in Senegal.

DISTRIBUTION Found in western Africa from Mauritania and Guinea east to Chad and Cameroon. Three subspecies are recognised by Forshaw and Cooper (1978) but *P.s. mesotypus* is considered to be referable to the nominate race by White (1965) and most subsequent authors.

P. s. senegalus: southern Mauritania, Senegal, Gambia, Guinea-Bissau, Guinea, southern Mali, northern Benin, northern Nigeria, southern Niger, Cameroon, Chad and possibly in eastern Burkina.

Benin Recorded at Koussokoingou (Atakora) in the north-west (Dekeyser, 1951, see Bouet, 1961).

Burkina One specimen collected by G.L. Bates at Mi-chemin between Say and Fada N'Gourma was possibly of this subspecies (Bannerman, 1931c).

Cameroon Occurs on the Adamawa Plateau (Louette, 1981) south to 15 miles north-east of Banyo at 6°50'N (Bouet, 1961); in the Benue Plain (Louette, 1981) including 25 miles south of Garoua (Bates, 1924); in the Mandara Mountains and possibly north to Waza at 11°22'N (Louette, 1981).

Chad Recorded by Grote (1928) at Abilela (12°50'N, 15°E) and at Damraou (10°7'N, 17°37'E), by Vielliard (1971, see Louette, 1981) at Fianga (9°57'N, 15°09'E), and mapped at about 8°45'N by Snow (1978).

Gambia Gore (1981) described it as occurring throughout the country.

Poicephalus senegalus

Guinea Recorded in the Fouta Djallon region, in the north-west and at Sambalaka (Maclaud, 1906, see Bouet, 1961), Konkoure' (Klaptocz, 1913), Kipe, on the coast near Conakry (Richards, 1982) and on the Iles de Los (Oustalet, 1879). An individual in captivity at Condoyah, Kindia was said to have originated in that region (Bournonville, 1967).

Guinea-Bissau Collected at Gunnal by Ansorge and at Farim by Fea (Bannerman, 1931), and mapped at five locations by Snow (1978). Frade and Bacelar (1955) recorded 17 specimens from various areas of the country in 1945-47.

Mali Occurs only south of about 15°N according to Lamarche (1980). Recorded at Fiko (14°30'N, 3°50'W) (Bates, 1933-34), Ké Mauna (13°59'N, 5°21'W) and Korienza (15°22'N, 3°52'W) (Guichard, 1947), Dioura (14°59'N, 5°12'W) (Duhart and Descamps, 1963) and at Boré (15°09'N, 3°33'W) (Lamarche, 1980).

Mauritania Recorded from the Senegal River area and north to Nouakchott (18°09'N, 15°58'W) (Gee, 1984).

Niger Recorded only from Parc National du "W" (12°-12°30'N, 2°-3°E) (Koster and Grettenberger, 1983; Cheke et al., 1985) and at Gaya (11°52'N, 3°28'E) (Cheke et al., 1985), but also mapped in the vicinity of Maradi (13°58'N, 7°06'E) (Snow, 1978).

Nigeria Found in the northern provinces of Sokoto, south to Giru (11°45'N, 4°12'E); Kano, south to Kaduna (10°28'N, 7°25'E); Bornu; Adamawa, from south-west of Maiduguri (11°53'N, 13°16'E) to north-east of Yola (9°14'N, 12°32'E) (Bannerman, 1931c; Bouet, 1961). Intergrades further south with *P.s. versteri*.

Senegal Occurs throughout the country (Bannerman, 1931a; Snow, 1978). Recorded from the Senegal River in the north (Morel and Morel, 1962) to the Niokola-Koba National Park in the south (Dupuy, 1976) and in many areas along the coast (Smet and van Gompel, 1980).

P.s. versteri Finsch: Ivory Coast, Ghana, Togo, Benin, eastern Burkina, south-west and central Nigeria, and possibly in Liberia.

Benin Brunel (1958) found that it was infrequent in the south; two specimens were obtained at Pobé. Recorded at Koussokoingou (Atakora) in the north-west (Dekeyser, 1951, see Bouet, 1961); and from Agouagou (7°59'N, 2°21'E), Savé; Savalou, Parakou, Karimami to Kandi (11°5'N, 2°59'E) (Bouet, 1961).

Burkina One specimen collected by G.L. Bates at Mi-chemin between Say and Fada N'Gourma (Bannerman, 1931c).

Ghana Not found in the south-west but occurs from Accra and Ejura (7°23'N, 1°15'W) (Lowe, 1937), north and east through the rest of the country (Bouet, 1961, Snow, 1978).

Ivory Coast Not found in the south-west or south-east (Snow, 1978). Recorded north of a line running from Touba (8°22'N, 7°42'W), through Séguéla (7°58'N, 6°44'W), Beoumi (7°44'N, 5°23'W), Tiassalé (5°53'N, 4°57'W), Abidjan, Bouaké (7°42'N, 5°W), to Kong (9°10'N, 4°33'W) (Bannerman, 1931, Bouet, 1961). Also mapped at about 8°N, 3°W (Snow, 1978).

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Liberia Three specimens obtained at Grand Gedeh County (5°45'N, 8°05'W) had clipped primaries, and so it is possible that they were transported from elsewhere as cage-birds (Louette, 1978).

Nigeria Not recorded in the south-east but widespread in the Guinea Savannas of the south-west and north where it intergrades with *P.s. senegalus* (Elgood, 1982). Recorded south to Ibadan (Elgood, 1982), Idah (7°05'N, 6°45'E) (Bouet, 1961), Ibi (8°11'N, 9°44'E) and north to Sokoto and Kano (Bouet, 1961). In 1980/81 a feral population was found at Lagos (Alexander-Marrack et al., 1985).

Togo Recorded from Kratschi (c. 8°N, 1°15'E), Sansanné-Mango (10°21'N, 0°28'E), and Kerikri (location unknown, possibly in Ghana) (Bouet, 1961); also from Sokodé (8°15'N, 1°08'E) (Reichenow, 1902), the coastal region of the country (Millet-Horsin, 1923), near Agbandi (8°13'N, 1°08'E) and at Nanergou (10°55'N, 0°09'E) (Roo et al., 1969), Namoundjoga (10°54'N, 0°24'E) (Roo et al., 1971), and Borgou (10°46'N, 0°35'E) (Roo et al., 1972).

POPULATION Overall regarded as common (Mackworth-Praed and Grant, 1970) or fairly common (Serle and Morel, 1977).

Benin Status not known.

Burkina Known from only two specimens (Bannerman, 1931a).

Cameroon Status not precisely known, but considered to be not threatened (Cameroon CITES MA, 1987).

Chad Considered as rare (Malbrant, 1952; Salvan, 1968; see Forshaw and Cooper, 1978).

Gambia Gore (1981) regarded it as common throughout the country, but Jensen and Kirkeby (1980) found it common on the lower and middle stretches of the Gambia River and uncommon elsewhere.

Ghana Recorded as common in the Volta district by Ussher (1874) and as locally distributed in the Northern Territories but especially numerous in the vicinity of water and acacia trees (Alexander, 1902). Reported by Pomeroy and Freeman to be very common all over the Northern Territories in 1930 (Bannerman, 1931a), abundant in the Keta district in 1942/43 (Holman in Bannerman, 1951), and, more recently, it was found to be common in 1974/75 in Mole National Park in the north-west (Greig-Smith, 1976).

Guinea Seen occasionally at Kipe (Richards, 1982) but its status elsewhere is not known.

Guinea-Bissau Status not known.

Ivory Coast Regarded as common (Thiollay, 1985).

Liberia No definite records.

Mali Widespread and common in the south (Lamarche, 1980); abundant at Fiko (Bates, 1934).

Mauritania Status not known.

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Niger Regarded as common in riverine woods such as in the Parc National du "W" (Niger CITES MA, 1986).

Nigeria Widespread and common in the south-west and north (Elgood, 1982), Brown (in Forshaw and Cooper, 1978) thought that they were frequent rather than common in most of the savannahs; only two or three pairs were seen in a day's walking. Sharland and Wilkinson (1981) regarded it as common in Kano State.

Senegal Regarded as very common (Bannerman, 1931a); common in the Vallée du Sénégal (Morel and Morel, 1962); very common throughout the central Ferlo region (Descarpentries and Villiers, 1969); very common in the Niokola-Koba National Park but less common in the Basse-Casamance National Park (Dupuy, 1976); and observed regularly in various coastal locations in 1978/79 (Smet and van Gompel, 1980).

Togo Regarded as rare near the coast by Millet-Horsin (1923) who found it occasionally in small flocks in maize fields. Apparently found in the northern Guinea savannas during visits made from 1972 to 1979 (Cheke and Walsh, 1980).

HABITAT AND ECOLOGY Inhabits savannah woodland and open forest (Forshaw and Cooper, 1978). In northern Nigeria it is found almost anywhere that there are tall trees, but prefers forest in which baobab *Adansonia digitata* or locust-bean *Parkia filicoidea* trees are numerous (Hutson and Bannerman, 1931). In the Gambia it prefers areas with palms (Jensen and Kirkeby, 1980) and also occurs in cleared agricultural land with scattered trees (Gore, 1981). It is a partial migrant, moving south in the dry season in some areas (Bates, 1934, Elgood, 1982), and elsewhere it fluctuates in numbers depending on the availability of food (Forshaw and Cooper, 1978). Generally seen singly, in pairs or small parties of ten to twenty. Feeds on seeds, grain, fruits and leaf-buds. Particularly fond of figs and seeds of locust-bean, mahogany *Kaya senegalensis*, madobia *Pterocarpus erinaceus*, dinya *Vitex cienkowski*, shea butter *Butyrospermum parkii* and *Sclerocarya birroea*. Also eats *Kassia* buds, seeds of *Acacia albida*, ripening millet and maize crops and attacks harvested peanuts set out to dry (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Not likely to be seriously affected by habitat loss, although in Niger it is suggested that this is the main threat to the species (Niger CITES MA, 1986). The latter also states that the species is persecuted because it attacks cereal crops, that national trade is negligible and there is no international trade. It has long been involved in international trade and, during the first part of the twentieth century it had a reputation as a pet *par excellence* (Low, 1986a). In 1961 Bouet wrote that the trade from Senegal had ceased twenty years before then because of health regulations and outbreaks of psittacosis. It is not known when the trade resumed.

INTERNATIONAL TRADE Minimum net imports reported to CITES fluctuated from 8249 in 1981 to 22857 in 1982. The chief importing countries were the USA, F.R. Germany, UK, France and Canada. The main countries of origin were Senegal and Mali.

Poicephalus senegalus

Table 1. Minimum net imports of live *P. senegalus* reported to CITES.

	1981	1982	1983	1984	1985
Bahamas	-	1	-	-	-
Canada	100	601	105	502	260
Cuba	10	-	-	-	-
Cyprus	-	-	-	6	-
Denmark	-	-	-	620	440
Egypt	-	-	-	20	-
France	-	-	-	191	2262
Germany, F.R.	2645	6623	6723	6054	5537
Italy	-	-	-	2	252
Japan	-	-	-	60	-
Netherlands	-	-	-	-	300
Netherland Antilles	-	-	-	4	-
South Africa	-	20	-	80	200
Sweden	-	426	-	578	-
Switzerland	-	4	1	-	2
UK	-	1016	911	1720	565
USA	5494	14166	7208	6964	5367
TOTAL	8249	22857	14948	16801	15185

*Poicephalus senegalus*Table 2. Reported countries of origin or export for exports of live *P. senegalus* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>P. senegalus</i>					
Gambia	-	2	-	-	1
Ghana	-	-	64	1	-
Guinea	-	-	1	-	-
Guinea-Bissau	-	-	-	1	-
Hungary	-	-	1	1	-
Liberia	-	-	200	-	100
Mali	2550	5150	925	250	473
Nigeria	-	-	-	-	1
Senegal	5597	17701	13755	16475	13896
Tanzania	-	-	-	-	500
Togo	-	-	-	2	-
Countries without wild populations of <i>P. senegalus</i>					
Equatorial Guinea	-	1	-	-	-
France	-	-	-	60	-
German D.R.	-	-	-	40	-
Germany, F.R.	-	-	1	-	-
Guyana	-	2	-	-	-
Honduras	-	-	-	5	-
Netherlands	-	-	-	24*	-
New Zealand	2	-	-	-	-
Saudi Arabia	-	-	2	-	-
South Africa	-	-	-	2	-
Sweden	100	-	-	-	210
Unknown	-	2	-	2	5

* = captive-bred

CONSERVATION MEASURES Six of the 16 range states are not Parties to CITES. Most of the following information was extracted from "African Wildlife Laws" IUCN Environmental Policy and Law Occasional Paper No. 3.

Benin Capture and export subject to licence (S.I. No. 80-38, dated 11 February 1980).

Burkina Not a Party to CITES. All hunting is banned (Act No. 80-0002/PRES/CMRPN dated 6 December 1980).

Cameroon Capture and export subject to licence (S.I. No. 83/170, dated 12 April 1983).

Chad Not a Party to CITES. Protection status unknown.

Gambia Totally protected (Act No. 1 of 1977, dated 14 February 1977).

Poicephalus senegalus

Ghana There was a ban on export from May 1980 and until the end of June 1982. Capture and export subject to licence (L.I. No. 685, dated 4 March 1971; L.I. 1240, dated 15 May 1980; CITES Notification No. 231, dated 13 October 1982).

Guinea Not protected under Decret No. 370 P.R.G., dated 27 October 1966.

Guinea-Bissau Not a Party to CITES. Totally protected (S.I. No. 21/1980, dated 12 May 1980).

Ivory Coast Not a Party to CITES. Capture and export subject to licence (Act No. 65-255, dated 4 August 1965).

Liberia A draft wildlife conservation regulation lists all parrots as totally protected.

Mali Not a Party to CITES. Capture and export subject to licence (Ordonnance No. 4/CMLN, dated 25 January 1971).

Mauritania Not a Party to CITES. Capture and export banned (Act No. 75.003, dated 15 January 1975).

Niger Not protected.

Nigeria Totally protected (Act No. 11, dated 20 April 1985).

Senegal Export subject to quotas (S.I. No. 754/MC/SEEF, dated 1 February 1982).

Togo Capture and export subject to licence (Act No. 4, dated 16 January 1968; and S.I. No. 80-171, dated 4 June 1980).

CAPTIVE BREEDING Not very often bred in captivity in the past but since the mid-1970s attempts and successes have been far more frequent (Low, 1986a).

PALM COCKATOO

Recommended list: C1*
[Problem]

Probosciger aterrimus (Gmelin, 1788)

Order PSITTACIFORMES

Family PSITTACIDAE

* Transferred to CITES Appendix I in 1987

SUMMARY AND CONCLUSIONS The species comprises three subspecies and occurs in eastern Indonesia (Aru Islands, Western Papuan Islands, Yapen Island, Irian Jaya), Papua New Guinea (mainland only) and Cape York Peninsula in Australia. It has recently been introduced on Kai Kecil (Indonesia) but, since there is no primary forest on that island it seems unlikely that it will survive there. In 1980/81 it was considered to be rare on the Aru Islands and in 1983 it was adjudged 'not abundant' on Batanta (Western Papuan Islands). In 1983 it was thought to have been seriously depleted by hunting on Yapen Island except in remote areas but was still fairly common in the Kumawa Mountains (Irian Jaya) and was occasionally seen in south-east Irian Jaya. In Papua New Guinea it may still be very locally common in remote forest areas but it has been extirpated in most areas close to human habitation. In Australia the small population might be stable but it is not clear if young are being recruited at a sufficient rate to replace the breeding population. Inhabits rainforest and neighbouring savannah woodland. Loss of forest is undoubtedly contributing to its decline in some areas.

The recorded trade during 1980-85 ranged from 9 in 1981 to 359 in 1983, virtually all originating in Indonesia. The species has been protected in Indonesia since 1970 and no commercial export is permitted in Papua New Guinea and Australia.

This species has suffered a serious decline in numbers in many areas due to a combination of hunting for food and feathers, habitat destruction and trapping for trade. It is rarely bred in captivity so most trade is likely to involve birds that have been illegally captured and exported. It is likely that trade has been a significant factor contributing to its decline.

DISTRIBUTION Eastern Indonesia (Aru Islands, Western Papuan Islands, Yapen Island, Irian Jaya), Papua New Guinea (mainland only) and Cape York Peninsula in Australia. (Forshaw and Cooper, 1981). A few specimens were introduced accidentally to Kai Kecil, Maluku in the 1970s (Anon., 1981), but Smiet (1985) reported that they were seldom seen by local people and he did not see any.

[Note Mees (1982) suggests that there are only two subspecies in New Guinea - *P. a. stenolophus* confined to the north coast and *P. a. goliath* in the rest of the island, and that birds from Cape York are intermediate between *P. a. aterrimus* and *P. a. goliath*.]

P. a. aterrimus Aru Islands (Maluku), Misool in the western Papuan Islands (Irian Jaya) (Mees, 1965), southern New Guinea from about Merauke east to the Gulf of Papua and Cape York Peninsula, northern Queensland (Forshaw and Cooper, 1981) (See Note above). On Cape York Peninsula the range extends on the eastern coast, south to Massey Creek and inland to the western slopes of the Tozer and McIlwraith Ranges, while on the western coast, it extends south to the Archer River and inland to Kinloch Creek (Storr, 1973).

P. a. goliath (Kuhl) Western Papuan Islands, other than Misool (Forshaw and Cooper, 1978; Rothschild, 1932); Bergman collected specimens in 1948-1949 on Batanta and Waigeo and the species was known to occur on Salawati

Probosciger aterrimus

(Gyldenstolpe, 1955). Found throughout much of New Guinea from Vogelkop, Irian Jaya east through central regions to south-east Papua (Forshaw and Cooper, 1978).

P. a. stenolophus (Van Oort) Confined to Yapen Island in Geelvink Bay, Irian Jaya and northern New Guinea from the Mamberamo River, Irian Jaya east to about Collingwood Bay in eastern Papua (Forshaw and Cooper, 1978).

POPULATION No estimates of population size are available; however general comments on status are included where available. Numerically rare in New Guinea occurring in widespread small populations (Beehler, 1985); extirpated from most areas in proximity to human settlement although more common elsewhere (Forshaw and Cooper, 1981).

Australia Common when it occurs but within a greatly restricted range (Australia CITES MA, 1986). Encountered frequently in most areas of the Claudié River district, common in the Weipa district and generally readily observed in a number of areas on Cape York Peninsula (Forshaw and Cooper, 1981). Blakers *et al.* (1984) state that, in the case of such a small population and because the species is long-lived there is a risk that the population may seem to be stable and surviving well and yet be failing to recruit young at a sufficient rate to replace the ageing breeding population.

Indonesia Smiet (1985) saw only a few individuals on Pulau Baun and Pulau Kobroor, Aru Islands and concluded that the species was undoubtedly rare. Diamond *et al.* (1983) found populations on Yapen Island to be seriously depleted, except in remote areas; the species was not abundant on Batanta although on Kumawa Peninsula, Irian Jaya it was still fairly common. Described as moderately common in a number of reserves in south-east Irian Jaya (Bishop, 1984). The long-term survival of the birds introduced on Kai Kecil was thought to be doubtful owing to a lack of primary forest on the island (Anon., 1981).

Papua New Guinea Described as rare in areas near human populations; found in remote areas but not in large numbers (Bruning, 1986 cited in Anon., 1987d). Reportedly difficult to find anywhere near human settlement (J. Forshaw, pers. comm. to F. Antram, 1986).

HABITAT AND ECOLOGY. The species is closely associated with tropical rainforest (Forshaw and Cooper, 1981). In New Guinea, it is found in forest and dense savannah woodland up to about 1300 m (Rand and Gilliard, 1967). On Cape York Peninsula it inhabits the fringe zone between dense rainforest and *Eucalyptus-Melaleuca* woodland. Seen singly, in pairs or in small parties often congregating in open woodland after sunrise and feeding there or along the edges of rainforest before returning to individual roosting trees just before sunset (Forshaw and Cooper, 1981). The species is primarily an arboreal feeder, although ground feeding has been observed; diet consists of seeds, fruits, nuts, berries and leaf buds (Forshaw and Cooper, 1978). Forshaw and Cooper (1981) reported that from the scant data available it would appear that the breeding season is prolonged and may vary in accordance with climatic conditions.

THREATS TO SURVIVAL Like other large forest birds this species is probably naturally quite rare, however it is quickly extirpated from areas with any human development (Beehler, 1985). It is largely dependent on rainforests (Forshaw and Cooper, 1978) and hunting and trapping are recognised as potential threats to its survival (Diamond, 1979).

Australia As Cape York Peninsula is opened up to grazing and mining

Probosciger aterrimus

interests, the species will become increasingly vulnerable (Forshaw and Cooper, 1981). Apparently sought after by both legal and illegal operators, but there have been no recent prosecutions (Australia CITES MA, 1986).

Indonesia and Papua New Guinea Shot adventitiously for food and feathers wherever it is encountered (Beehler, 1985); persistent hunting has eradicated the species in the vicinity of most larger towns and villages in New Guinea (Forshaw and Cooper, 1978). The commercial cage bird trade was reported to be a major threat to the fauna of the Mamberamo region, northern Irian Jaya (Diamond, 1979). In south-east Irian Jaya the species was reported to be frequently captured for the pet trade and locally shot for the preparation of exotic food (Bishop, 1984). Smiet (1985) reported that despite its protected status it was heavily hunted in the Aru Islands and traded illegally for high prices. Local people hunt the birds with bows and blunted arrows, and place traps on the forest floor. If present trends continue, Diamond *et al.* (1983) expect the species to become extinct on Yapen within the next two decades, despite the fact that commercial export logging operations have ceased on the island.

INTERNATIONAL TRADE The Palm Cockatoo has always been infrequently traded and expensive to purchase (Low, 1986a). Diamond (1979) reported that most of the illegal trade from the Mamberamo region, Irian Jaya leaves the country via Jakarta and from there the birds are transported to Singapore and then on to western Europe, the USA and Japan. A number of recent alleged smuggling cases involving this species also concerned birds from Indonesia routed via Singapore (J. Thomsen, pers. comm., 1987). Listed in CITES Appendix II in 1975 and transferred to CITES Appendix I in 1987.

Table 1. Net imports of live *P. aterrimus* reported to CITES. The totals provide estimates of the minimum volume of world trade for each year.

	1980	1981	1982	1983	1984	1985
Austria	-	-	-	-	-	20
Belgium	-	-	2	-	-	-
Colombia	-	-	-	-	8	-
Congo	-	-	-	1	-	-
Gambia	-	-	-	-	2	-
German, D.R.	-	-	-	-	-	1
Germany, F.R.	-	-	-	-	4	9
Hong Kong	-	-	-	1	-	-
Italy	-	3	8	4	12	-
India	2	-	-	-	-	-
Indonesia	-	-	-	-	-	8
Netherlands	1	-	4	-	-	1*
Oman	-	-	-	-	-	1*
Singapore	-	-	-	196	-	-
South Africa	-	-	-	-	8	-
Switzerland	5	-	-	2	-	1
UK	1	4	-	-	-	-
USA	8	2	4	155	2	-
TOTAL	17	9	18	359	36	41

* = captive-bred

Probosciger aterrimus

The average volume of trade over the years 1980-85 was therefore 80 birds, the majority of which were traded in 1983.

Nilsson (1985) gave a US import figure for 1980 of 44 suggesting that CITES statistics may have underestimated the trade in that year.

Table 2. Reported countries of origin or export for exports of live *P. aterrimus* reported to CITES. When specimens have been exported to an intermediate country and subsequently re-exported, the minimum net trade was calculated, ensuring that numbers were only recorded once.

	1980	1981	1982	1983	1984	1985
<hr/>						
Countries having or possibly having populations of <i>P. aterrimus</i>						
Indonesia	-	-	-	398	6	42
Papua New Guinea	-	3	-	-	-	-
Countries without wild populations of <i>P. aterrimus</i>						
German D.R.	-	-	-	1*	-	1*
India	-	-	-	-	-	1*
Malaysia	-	-	8	-	-	-
Philippines	2	3*	-	23	-	-
Singapore	5	1	1	-	16	3
South Africa	-	-	-	1	-	-
Thailand	8	-	8	6	12	-
UK	-	-	-	-	-	2*
Unknown	3	3	1	2	2	5

* = captive-bred

In most years a large proportion of the trade in this species was reported to have originated in countries without wild populations. Of the trade reported to have originated in Indonesia and Papua New Guinea, only the four birds exported by Indonesia in 1984 were reported to have been exported directly by the country of origin and these were reportedly traded for zoological purposes. The majority of the trade in 1983 was reported as re-exports from Malaysia and Singapore, originating in Indonesia, despite the species having been protected there since 1970 (see below). Very few of the birds in trade were reported to have been captive-bred.

CONSERVATION MEASURES

Australia Protected from commercial export under the Wildlife Protection (Regulation of Exports and Imports) Act 1982. A number of reserves have been established on Cape York Peninsula protecting important areas of habitat for this species (Forshaw and Cooper, 1981).

Indonesia Protected since 1970 by Decree of the Minister of Agriculture No. 421/Kpts/Um/8/1970 (Anon., 1982).

Probosciger aterrimus

Papua New Guinea A 'restricted' species, prohibited from commercial export under the Customs (Prohibited Exports) Regulations 1973 (Parker, 1981).

CAPTIVE BREEDING The species has been bred successfully on very few occasions. It was first bred in captivity in Sydney, Australia in the late 1960s (Low, 1986a). Meyers (pers. comm. to D. Alderton, 1987) stated that at least 18 chicks of this species had been hatched in captivity in the years 1981-1986.

DUSKY LORY

Recommended list: 3
[No problem]

Pseudeos fuscata (Blyth, 1858)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A monotypic species occurring throughout Irian Jaya and the mainland of Papua New Guinea. Also on Salawati and Yapen Islands off the coast of Irian Jaya. Its status is difficult to assess because it is nomadic in much of its range. It was described as 'common to abundant' but nomadic and often absent in Papua New Guinea in 1985 and roosts of thousands of birds have been reported in other areas in the past. Inhabits both savannah and forest, apparently dependent on flowering trees.

The recorded trade during 1981-85 ranged from 37 in 1983 to 575 in 1984, nearly all originating in Indonesia. The species is not protected in Indonesia although exports are controlled by a quota system. In Papua New Guinea commercial exports are not allowed.

The present level of trade is not likely to have any effect on populations of the species.

DISTRIBUTION New Guinea and adjacent islands.

Indonesia Occurs throughout Irian Jaya and on Japen Island (Geelvink Bay) and Salawati Island (off western Irian Jaya) (Rand and Gilliard, 1967; Diamond, 1986b).

Papua New Guinea Occurs throughout Papua New Guinea (Rand and Gilliard, 1967), except perhaps the Trans-Fly region (Coates, 1985).

POPULATION Little information is available.

Indonesia Hoogerwerf (1971) reported that on the Vogelkop, in the west of Irian Jaya, these parrots were always seen in large parties, feeding in flowering or fruiting trees. On the south side of the Snow Mountains, according to Rand and Gilliard (1967), large sleeping roosts of thousands of birds have been reported.

Papua New Guinea Beehler (1978) described the species as irregularly abundant, noting that it was most commonly seen in large noisy flocks, in north-eastern New Guinea. Diamond (1972) believed that the erratic distribution of this species in the Eastern Highlands suggested seasonal migration within New Guinea. It appeared that the Eastern Highlands population bred during the rains, then left before the onset of the dry season, perhaps retreating to the coastal lowlands. Furthermore Coates (1985) described it as common to abundant but nomadic and often absent.

HABITAT AND ECOLOGY Grows to about 25 cm long (bill to tail tip) (Forshaw and Cooper, 1978). Inhabits both forest and savanna and feeds in the tops of flowering trees (Rand and Gilliard, 1967). Has been recorded from sea level to about 2000 m (Beehler, 1978; Forshaw and Cooper, 1978). Diamond (1972) has suggested the species is migratory within New Guinea. Beehler (1978) said they were often seen flying high over forests or disturbed habitats and also suggested that they might be migrating. And specimens have been seen flying high over the central mountain range of Papua New Guinea "obviously on

passage" (Bell, *in litt.*, quoted in Forshaw and Cooper, 1978). Presence of this species seems to depend on the presence of flowering trees (Rand and Gilliard, 1967).

Commonly feeds in *Leucaena* groves in northern Papua (Beehler, 1978). Forshaw and Cooper (1978) quoted records of feeding in a profusely flowering *Pittosporum ramiflorum* and amongst coconut blossoms, in Papua. Stomachs of birds collected on the Vogelkop included small black fruit-stones, light green pulp and fine vegetable matter, probably flower fragments (Hoogerwerf, 1971).

Breeding, in the Eastern Highlands of Papua, takes place in the rainy season, starting in November (Diamond, 1972), but Diamond did find the testes of a male taken on 5 August were enlarged. Specimens collected in the Arfak Mountains, Irian Jaya, during July were found to have enlarged gonads (Gyldenstolpe, 1955).

THREATS TO SURVIVAL Diamond (1979) considered that the commercial bird trade appeared to be the biggest threat to the fauna of the Mamberamo region of north Irian Jaya, where he records this species occurring. No details of other threats known.

INTERNATIONAL TRADE Net world imports derived from CITES annual report statistics are shown in Table 1. The Government of Indonesia has supplied recent information on its exports: 232 birds in 1981, 183 in 1982, 46 in 1983, 522 in 1984 (Indonesia CITES MA, 1986). It is noteworthy that the annual trade appears to have doubled from 1982 to 1984.

There is no evidence of trade emanating from Papua New Guinea. Thus all of the trade, except for a few captive-bred animals from Netherlands, Italy and the USA, is likely to have come from Indonesia.

The largest quantities appear to have been destined for Singapore (presumably for re-export), Japan, USA and F.R. Germany; Denmark was an important importer in 1984. The largest shipment from a non-source country was 30 birds imported to the USA from Malaysia in 1982.

CONSERVATION MEASURES

Indonesia There is a quota on exports from Irian Jaya, of 500 a year in 1984 and 1985 (Anon., 1984a; Anon., 1985) and 1000 in 1987 (Anon., 1987a).

Papua New Guinea Commercial exports are not permitted (Parker, 1981).

CAPTIVE BREEDING The Dusky Lory was hardly present in aviculture before 1972. Low (1986a) reported that the species has proved to be very ready to nest and that there had been numerous breeding successes in recent years.

Pseudeos fuscata

Table 1. Minimum net imports of live *P. fuscata* reported to CITES.

	1981	1982	1983	1984	1985
Bahamas	-	-	-	-	6
Canada	-	-	-	-	42
China	-	-	4	-	-
Denmark	-	-	-	60	-
France	10	55	-	-	-
German D.R.	-	-	-	1	-
Germany, F.R.	22	19	7	106	70
Hong Kong	15	-	-	-	-
Italy	-	-	25	50	-
Japan	50	-	-	67	20
Malaysia	-	-	-	20	65
Netherlands	-	-	-	-	24
Netherland Antilles	-	-	-	2	-
Singapore	70	77	-	-	80
South Africa	-	-	-	4	-
Sweden	-	-	-	-	48
Switzerland	-	10	-	-	-
Taiwan	65	-	-	35	-
Thailand	-	10	-	40	-
UK	-	2	1	90	60
USA	-	74	-	100	115
USSR	-	4	-	-	-
TOTAL	232	251	37	575	530

Table 2. Reported countries of origin or export of live *P. fuscata* reported to CITES.

	1981	1982	1983	1984	1985
Countries having populations of <i>P. fuscata</i>					
Indonesia	232	204	32	576	410
Countries without wild populations of <i>P. fuscata</i>					
Belgium	-	4	-	-	-
Hong Kong	-	-	4	-	-
Italy	-	10*	-	-	-
Malaysia	30	-	-	-	-
Netherlands	-	-	-	2*	-
Singapore	-	-	-	-	100
Sweden	-	-	-	-	42
USA	-	-	1*	-	-
Unknown	-	3	-	1	-

* = captive-bred

LORD DERBY'S PARAKEET
DERBYAN PARAKEET

Recommended list: 2
[Possible problem]

Psittacula derbiana (Fraser, 1850)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Occurs in China in western Sichuan, Yunnan and south-east Xizang Zizhiqu, and also in Siang and Subansiri Divisions, Arunachal Pradesh, India. No recent information on status has been obtained; about fifty years ago it was noted in flocks of up to fifty birds in Xizang Zizhiqu. Inhabits coniferous forests, mixed pine and oak forests and rhododendron forests. Reportedly may cause considerable damage to crops in some areas.

The recorded trade during 1981-85 ranged from 14 in 1981 to 1089 in 1982. Virtually all the birds originated in China, but a very small number of captive-bred birds were exported from Europe. The species is not protected in China but export from India is not allowed.

Given the scanty knowledge of this species in the wild, it is necessary to obtain current information on status before the effects of trade can be assessed.

DISTRIBUTION Extreme north-east India and south-west China.

China South-west China in Xizang Zizhiqu, Sichuan and Yunnan. Resident in western Sichuan from the Yalong Jiang valley and Muli region (ca 102°E) westward, and north to around 32°N (Meyer de Schauensee, 1984; Stone, 1933). Records from Sichuan include: one female bird collected from 50 miles east of Hokow (Yalung River) in September 1934 (Schafer and Meyer de Schauensee, 1938); seven specimens collected at Nachuka (western Sichuan) in August 1908 (Thayer and Bangs, 1912); records in June and November at Broxing (102-103°E, 30-31°N) (Li et al., 1976); and records in 1929 from Kopadi and Yatsa (Bangs, 1932). In western Yunnan, *P. derbianus* is recorded from the Xue Shan Mountains in the north, south through the Tengchong region to the area of Jinghong in the south (Zheng, 1976; Meyer de Schauensee, 1984). Also occurs in south-east Xizang Zizhiqu, east of around 93°E and at least as far north as the Po Yingrong Range (ca 30°15'N) (Ludlow, 1944; Ludlow, 1951; Li Dehao et al., 1978).

India A resident in the Mishmi Hills in Arunachal Pradesh (has been recorded in February-March and also breeding); definitely recorded in the upper Lohit Valley near the border with Xizang Zizhiqu (Tibet) and possibly ranging through much of the Mishmi Hills (Stoner, 1952).

POPULATION No recent information on the status of this species is available.

China Thayer and Bangs (1912) stated that it was apparently rare and local in western Sichuan in August 1908. Evidently not uncommon in south-east Tibet in the 1930s; it was recorded at that time in flocks of 40-50 birds (Ludlow, 1944).

India Stoner (1952) described seeing 'several flocks' in February-March 1945 in the upper Lohit Valley.

HABITAT AND ECOLOGY. Appears to be largely a montane species, occurring up to 4000 m altitude; reported (in Arunachal Pradesh and south-east Xizang Zizhiqu) to frequent coniferous forests, generally along valley sides, and cultivated areas in valley bottoms (Ludlow, 1951; Stoner, 1952). Recorded as

Psittacula derbiana

low as 1250 m in Arunachal Pradesh (Stoner, 1952), while on Mt Yu-Lung, north-western Yunnan, was recorded within a narrow altitudinal range at c. 3000 m (Tan and Zheng, 1964) and in south-east Xizang it was recorded between 2000 and 3200 m in May-July (Zheng et al., 1983). The species appears to be resident, or perhaps a local altitudinal migrant, not a migratory species (Ludlow, 1951; Stoner, 1952; *contra* Ludlow, 1944) and has been recorded at 2700 m in January in Xizang Zizhiqu (Ludlow, 1951). In Xizang Zizhiqu, recorded as feeding on poplar trees and the cones of *Pinus tabulaeformis* early in the year and in barley fields and peach groves in the autumn; the species can apparently cause considerable damage to crops (Ludlow, 1951; Ali and Ripley, 1984). Breeding (in Xizang Zizhiqu) recorded in mid-June in holes in trees (especially *Populus ciliata*) (Ludlow, 1951). Clutch size in captivity generally two, sometimes three (Smith, 1979). Incubation period given as about 26 days (Low, 1986a); believed to fledge in around seven weeks (Smith, 1979).

THREATS TO SURVIVAL No information.

INTERNATIONAL TRADE Low (1986a) stated that this species has been exported on few occasions and in small numbers. All information on trade is derived from annual reports to CITES for 1981-1985. All recorded trade involved live birds.

A minimum of 2776 birds was recorded in trade in the period 1981-85 (a 1983 import to Hong Kong from China of an unknown number of birds is excluded from the discussion) (Table 1). Twenty-three of these were recorded as captive bred; almost all (96%) of the remainder originated in China, with Hong Kong, the USA and F.R. Germany the principal importing countries. No exports from India were reported, the remaining 4% of birds in trade having reported countries of origin outside the range of *P. derbiana*, or having an unknown origin.

The number of birds exported from China has decreased from 1982 to 1985; it is unclear if this is part of a long-term trend (only 6 birds were exported in 1981 and there is no consistency in principal country of import from year to year) (Table 2).

In the absence of recent population data, it is not possible to comment on the effects of trade on this species.

CONSERVATION MEASURES It is not known if this species occurs in any protected areas.

China Legal status unknown. Surtees (pers. comm. to D. Alderton, 1987) indicated that a quota system may be in operation, but no further details are known.

India All Psittacidae are classified as Small Game under the 1972 Wild Life (Protection) Act and may be hunted under licence. Export is prohibited under the Exports (Control) Order 1977.

CAPTIVE BREEDING The species was first bred in captivity in the USA in 1930. It now appears to breed regularly, though in fairly small numbers (Low, 1986a). Smith (1979) thought that the UK population in the late 1970s probably amounted to fewer than 20 pairs, but considered it likely to be self-sustaining.

Table 1. Apparent minimum net imports of *Psittacula derbiana* reported to CITES, 1980-1985

	1981	1982	1983	1984	1985
Austria	-	-	-	3	-
Canada	-	-	-	3	2
Cayman Islands	-	-	-	-	1
Germany, F.R.	-	60	-	119	-
Hong Kong	-	994	?	300	-
Japan	-	-	-	-	26
Neth. Antilles	-	-	-	2	-
New Zealand	4	-	-	-	-
Sri Lanka	-	-	4	-	-
USA	10	35	560	513	140
	14	1089	564+	940	169

Table 2. Reported countries of origin (or exporting country if no original source reported) and quantities of transactions in *Psittacula derbiana* reported to CITES, 1981-85.

	1981	1982	1983	1984	1985
Country within range of <i>P. derbiana</i>					
China	6	1089	504+	925	166
Country outside range of <i>P. derbiana</i> or country unknown					
Austria	4	-	-	-	-
Belgium	-	-	17	8*	-
Canada	-	-	-	3	-
Netherlands	-	-	10	8*	3*
Philippines	-	-	33	-	-
Thailand	4*	-	-	-	-
Unknown	-	-	-	2	-

* = captive bred

LONG-TAILED PARAKEET

Recommended list: 3
[No problem]

Psittacula longicauda (Boddaert, 1783)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS The species is composed of five subspecies, and occurs in the Andaman and Nicobar Islands (India), Cocos Islands (Burma), Peninsular Malaysia, Singapore, Sabah, Sarawak, Brunei, and in Indonesia (Sumatra, Enggano, Riau and Lingga Archipelagos, Anambas Islands, Bangka, Belitung, Kalimantan and other nearby islands). Its overall status is difficult to define because it is apparently unevenly distributed. In Peninsular Malaysia it was reported in 1967 that it was becoming a pest of oil palm. In Sabah it has been seen in flocks of several hundred birds. It has not been reported to be uncommon anywhere in its range apart from in Singapore. Inhabits lowland wooded country, oil palm plantations and secondary forest.

The recorded trade during 1981-85 ranged from 13 in 1981 to 790 in 1982. Most of the birds originated in Malaysia in 1982 and 1983 and also in Indonesia in 1984 and 1985. The species is protected in Singapore and no commercial exports are allowed from India but elsewhere it is apparently unprotected.

The present level of trade is unlikely to be affecting populations of this species.

DISTRIBUTION Malay Peninsula, Borneo, Sumatra and adjacent islands, Andaman and Nicobar Islands (King et al., 1975). Five subspecies are recognized:

P. l. defontainei

Indonesia Natuna Islands (van Marle and Voous, 1988).

P. l. longicauda

Brunei Kidd (1978) stated that it could be found anywhere on the coastal plain.

[China Meyer de Schauensee (1984) noted that *P. l. longicauda* had been recorded in Guangxi Zizhiqu; he considered such records almost certainly to represent misidentified specimens of *P. roseata* or escapees.]

Indonesia Recorded from Sumatra, Riau, and Lingga archipelagos, Bangka, Belitung, Mendanau, Bintan, Karimata, Kalimantan and the Anambas Islands (van Marle and Voous, 1988). Forshaw and Cooper (1981) also list it for Nias, but this is presumably an error.

Malaysia Recorded in suitable habitat in Peninsular (West) Malaysia from Trengganu and Sungei Patani district (Kedah) to the far south (Medway and Wells, 1976). Smythies (1981) noted that the species appeared to be unevenly distributed on Borneo. In Sabah the species occurs mostly in coastal and lowland forests, especially in floodplains of large rivers and in coastal swamp forest; it is reportedly rare or absent through most of Sabah (Chief Game Warden, Sabah, 1986). In Sarawak, Smythies (1981) reported that it was only recorded from a few scattered localities.

Singapore Buck (1983) recorded it as resident; Ward (1968) considered it likely to be a passage migrant, being seen mostly in May-July, in areas where there were tall trees in suburban gardens.

P. l. modesta

[China Meyer de Schauensee (1984) noted that *P. l. modesta* had been recorded in Sichuan; he considered such records almost certainly to represent misidentified specimens of *P. roseata* or escapees.]

P. l. nicobarica

India (Nicobar Islands) Recorded in the 1870s and 1890s as resident on all the islands of the Nicobar group (Ali and Ripley, 1984). It is presumably still distributed throughout the Nicobars; Abdulali (1972) recorded it as resident on Great and Car Nicobars in the 1970s.

Indonesia Enggano (van Marle and Voous, 1988).

P. l. tytleri

Burma Reported to occur on Preparis and the Cocos Islands in the Andaman group (Ali and Ripley, 1984).

India (Andaman Islands) Recorded as resident throughout the Andaman Islands, including Barren Island and Narcondam (Ali and Ripley, 1984).

POPULATION Records indicate that the species has been very abundant in at least parts of its range, and is likely to still remain so.

Brunei In 1978 said to occur in very large numbers in some areas, with at least 300 seen in one evening (Kidd, 1978).

Burma No information.

India Abdulali (1967) reported it as common in the South and Middle Andamans and frequent in the Nicobar Islands. It was reported as very common in the late Nineteenth Century throughout the Andamans, being found in 'vast flocks of thousands', and as excessively abundant on all islands of the Nicobar group (sources in Ali and Ripley, 1984).

Indonesia Very little recent information. Smythies (1981) notes that they were reported in enormous flocks in the Barito drainage in Kalimantan in the nineteenth century; it is not known if they still persist there in large numbers. Van Marle and Voous (1988) mention that it formerly congregated in huge roosts but that it was growing scarcer as breeding sites in primary lowland forests disappeared.

Malaysia In the 1960s evidently sufficiently abundant in some areas of Peninsular Malaysia to be considered a pest of oil palm (Ward and Wood, 1967, cited in Medway and Wells, 1976); recorded in 1983 as common in parts of southern Johore (Buck, 1983). In Sarawak (East Malaysia), apparently only recorded in small numbers in a few scattered localities (Smythies, 1981). In Sabah (East Malaysia) reported to occur in groups of several tens in coastal habitat (Malaysia, Sabah CITES MA, 1986); Smythies (1981) states that they congregate in large flocks of several hundred birds in the Membakut area of Sabah from September to April.

Singapore Reported to be an uncommon resident (Buck, 1983); it was apparently more abundant in the nineteenth century (Kelham, 1881-82; Ridley, 1898).

HABITAT AND ECOLOGY. Frequents a variety of lowland habitats. In West Malaysia recorded in mangrove, forest canopy (including swamp forest),

Psittacula longicauda

partially cleared country and oil palm plantations in the lowlands (Medway and Wells, 1976). Smythies (1981) notes that in Borneo they avoid primary forest and seem to prefer coastal districts where they frequent clearings and mangroves. On the Andamans they were stated to frequent cultivated areas and surrounding forests - they were recorded in vast flocks of thousands about fields of ripening paddy, to which they were enormously destructive (Ali and Ripley, 1984). Nests gregariously in holes in tall, often dead, trees (Ali and Ripley, 1984; Medway and Wells, 1976; Smythies, 1981); in the Andamans commonly uses Padouk (*Pterocarpus marsupium*), between c. 4 and 8 m up. Reported clutch size of two to three eggs (in the wild) or three to four (in captivity) with an incubation period (in captivity) of 24 days (Smith, 1976). Breeding in Andamans and Nicobars recorded in February-March; in West Malaysia, eggs have been found in December and February and nestlings in July; in Borneo, breeding has been recorded in July. Food consists of seeds, fruits, nuts, berries, nectar, blossoms and leaf buds (Forshaw and Cooper, 1978). In Borneo they have been observed feeding on the fruit of the Kapor tree (*Dryobalanops* sp.) and on *Dillenia speciosa*. In the Nicobar Islands they have been seen feeding on the outer covering of betel nuts (*Areca catechu*), papaya (*Carica papaya*), and ripe *Pandanus* fruit, while in West Malaysia they are recorded as feeding on oil palm (*Elaeis guineensis*) fruits and on the flowers of an Acacia planted as shade trees in coffee plantations.

According to Forshaw and Cooper (1978) the species is sporadic and unpredictable in its movements.

THREATS TO SURVIVAL Reports indicate the species can adapt well to, or even prefers, secondary or modified habitats, as illustrated by it apparently becoming a pest of oil palm plantations. The principal factors affecting the species appear to be hunting as a crop pest, for food or for the pet trade. In Sabah (East Malaysia) the species is reportedly occasionally killed as a pest of fruit crops, but it is thought that few, if any, are taken live (Chief Game Warden, 1986). In the nineteenth century, in the Barito drainage in South Kalimantan (Indonesia), hundreds were taken with bird-lime to be sold as food (Smythies, 1981). It is not known if this practice continues. There are no indications that the species is in any measure threatened at present.

INTERNATIONAL TRADE All information on trade in *P. longicauda* is derived from annual reports to CITES for 1981-85. All recorded trade was in live birds.

Table 1. Minimum net imports of live *P. longicauda* reported to CITES.

	1981	1982	1983	1984	1985
Austria	-	-	-	-	60
Belgium	-	-	-	20	-
Germany, F.R.	-	165	-	230	50
Italy	-	100	200	-	100
Malaysia	13	-	-	100	-
Netherlands	-	-	-	-	150
Saudi Arabia	-	-	-	-	2
USA	-	55	-	36	40
Unknown	-	470	-	-	-
TOTAL	13	790	200	386	402

Psittacula longicauda

Table 2. Reported countries of origin or export for exports of live *P. longicauda* reported to CITES.

	1981	1982	1983	1984	1985
Countries with wild populations of <i>P. longicauda</i>					
India	-	-	-	30	-
Indonesia	13	18	-	286	110
Malaysia	-	752	200	70	292
Singapore	-	10	-	-	-
Countries without wild populations of <i>P. longicauda</i>					
Belgium	-	10	-	-	-

A total of 1795 individuals was reported in trade during 1981-85, virtually all (barring 10) originating in countries with wild populations of the species, most (73%) from Malaysia. A large proportion (41%) were exported by Malaysia to an unknown destination in 1982.

It is extremely unlikely that the level of trade recorded by CITES Parties (averaging under 400 birds per year) poses any threat to the species, although it should be noted that there are very few published records of successful breeding in captivity.

CONSERVATION MEASURES The species can be expected to occur in several protected areas within its range.

Brunei Not protected under the Wildlife Protection Act, 1978.

Burma Not protected under the Wildlife Preservation Act, 1936.

India All Psittacidae are classified as Small Game under the 1972 Wildlife (Protection) Act and may be hunted under licence. Export is prohibited under the Exports (Control) Order, 1977.

Indonesia Not protected.

Malaysia Not protected.

Singapore Capture, killing, keeping in captivity, import and export require licences under the Wild Animals and Birds Act, 1965.

CAPTIVE BREEDING Low (1986a) provides details of only two instances of successfully rearing young in captivity.

(EASTERN) BLOSSOM-HEADED PARAKEET

Recommended list: 2
[Possible problem]

Psittacula roseata (Boddaert, 1783)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS The species is composed of two subspecies, and occurs in north-east India, Bangladesh, Burma, Thailand, Kampuchea, Laos, Viet Nam and possibly in China. Its status is not recorded in all areas; in Bangladesh it was described as common in 1982, whereas in Burma it was described as sparingly distributed and local in 1953. In Thailand it was described as very common in 1974 but one recent report indicates that it has now apparently declined in heavily populated areas owing to widespread hunting and capture for trade. Inhabits forests, secondary growth and cultivated areas.

The recorded trade during 1981-85 ranged from nil in 1983 to 467 in 1982. The latter figure included 341 which were listed as captive-bred despite the fact that this species is rarely bred in captivity. The wild-collected birds were mainly exported by Malaysia (a non-range country) and Thailand with a few from India and Singapore. The species is protected in Bangladesh and Thailand but exports are permitted from the latter under a quota system.

Since the species is apparently declining in some areas more information on its overall status is required. It is not likely that habitat loss is affecting the species significantly so it is possible that trade may be the most important factor associated with its decline. This possibility should be investigated.

DISTRIBUTION Mainland South East Asia from the lower Himalaya in western Bengal and Assam to southern Thailand and south Viet Nam.

Some authors include this taxon as a subspecies (*rosa*) of *P. cyanocephala*; the two forms may be confused in trade owing to their similarity. Forshaw and Cooper (1981) treated *P. roseata* as a separate species; two subspecies have been described:

P. r. juneae

Bangladesh Reportedly confined to forested regions such as the Chittagong Hill Tracts, Chittagong (Husain, 1979; Ripley, 1982); intergrades with *roseata* in the region of Tripura (Ali and Ripley, 1984).

Burma Northern Burma (Forshaw and Cooper, 1978). Biswas recorded it north to Bhamo (24°15'N, 97°15'E), intergrading with *roseata* in the Chindwin (Mingin and Thaugdwin) area (around 23°N).

China Listed as resident in Yunnan, Guangxi and Guangdong in south China by Meyer de Schauensee (1984) but all records are either incorrect or doubtful. Rothschild (1926) mentions two juveniles collected at Momien, Yunnan but questions their identification. Biswas (1951) examined one of these specimens and determined that it was *P. himalayana*. He also examined specimens from Kuang-chou (Canton), Guangdong and Yen-t'ai (Chefoo), Shandong and found that these had obviously been cage birds. Details of its occurrence in Guangxi are not known (it is not mentioned by Yen, 1933-34) but, as the nearest definite locality is at least 600 km to the south, it can only be regarded as doubtful.

India Confined to southernmost Assam; intergrades with *roseata* in Tripura (Ali and Ripley, 1984; Biswas, 1951).

Kampuchea Sambor (Delacour, 1929); Kompong Thom (Biswas, 1951).

Laos Occurs in the south and central regions (King *et al.*, 1975).

Thailand Range given by Deignan (1963) as the northern and eastern plateaus and the western peninsular provinces south to Prachuap Khiri Khan (11°50'N, 99°49'E).

Viet Nam Stated by Wildash (1968) to occur throughout south Viet Nam and listed for Cochinchina, central and south Annam by King *et al.* (1975). The most northerly record listed by Biswas (1951) and Vo Quy (1975) is at Quang Tri (16°46'N, 107°11'E). Mainly in the lowlands (Delacour and Jabouille, 1931) but a flock recorded at Camly on the Langbian Plateau in August 1960 (Brunel, 1978).

P. r. roseata

Bangladesh Apparently confined to forested regions in Sylhet (Husain, 1979); intergrades with *juneae* in the region of Tripura (Ali and Ripley, 1984). Khan (1982) reported that the species occurs in the north of the country.

Bhutan Reported to occur in the lower Himalaya (Ali and Ripley, 1984; Biswas, 1951).

Burma Described by Smythies (1953) as sparingly distributed through central and southern areas, the Shan States and Tenasserim north of the Mergui District. Listed by Biswas as intergrading with *juneae* in the Chindwin (Mingin and Thaugdwin) area (around 23°N); recorded south to Tavoy (14°12'N, 98°12'E).

India North-east India in northern West Bengal (east from the foothills below Darjeeling); Arunchal Pradesh (Dafla Hills, Miri Hills), Assam (Sadiya, Dibrugarh, Cachar District); Nagaland; Manipur; intergrading with *juneae* in Tripura (Biswas, 1951).

POPULATION No estimates of the total population size are available.

Bangladesh Described as common by Khan (1982).

Burma Described as local by Smythies (1953). Christison *et al.* (1946) reported that in coastal Arakan and the Yomas foothills it was generally scarce and locally migratory, being very common in Ruywa in March and April.

China No information.

India No information.

Kampuchea Delacour (1929) described it as rare in the areas he had visited. No further information.

Laos No information.

Thailand In 1985 it was noted that all parakeets (*Psittacula* spp.) had declined very markedly in numbers and were scarce and local in the more densely populated parts of the country; largest numbers of *P. roseata* were stated to occur in the least disturbed lowlands and lower hills along the western margin of the country. It was, however, not considered to be at risk (Round, 1988). Lekagul and Cronin (1974) described it as a very common resident of Thailand. Recently noted in Nakhon Sawan Province as

Psittacula roseata

scarce/occasional and only in January and May (Ogle, 1986).

Viet Nam Reported in 1968 as uncommon in south Viet Nam (Wildash, 1968); no information is available concerning status in the northern part of the country.

HABITAT AND ECOLOGY. Occurs in well-wooded country, light forest and cultivated areas; Round (1988) noted that in Thailand all *Psittacula* spp. occurred primarily in association with mixed deciduous forests but also utilised open country and secondary habitats such as croplands provided that scattered clumps of taller trees remained as secure nesting and roosting sites. The species has been recorded as breeding at 3000 ft (c. 1300 m) in the Shan States, Burma (Smythies, 1953). Reported to be seen usually in family groups or small flocks, sometimes in the company of Moustached Parakeets (*P. alexandri*), though they apparently roost in large communal sites. Diet consists of blossoms and fruit. Nesting has been recorded in Burma in April and May; usual clutch size in captivity is four, sometimes more, with incubation period around 22 days. Young fledge at about seven weeks (Smith, 1979).

THREATS TO SURVIVAL The species evidently survives in secondary and modified habitats although there are no data on relative abundances in such habitats compared with undisturbed forests. Round (1988) noted that all *Psittacula* spp. in Thailand had declined very markedly in populated areas as a result of human persecution, with large numbers of young birds taken for the cage-bird trade and adults shot as pests. It seems likely that similar pressures apply elsewhere in its range; there are, however, no indications that the species is threatened at present.

INTERNATIONAL TRADE All information on trade in *P. roseata* is derived from annual reports to CITES.

A total of 836 birds are recorded in trade for the period 1981-85. The great majority of birds (95%) were imported by the USA, with Sweden and the UK the only other importing countries. No clear trend in numbers in trade over the four years is discernible. (Table 1). 341 of these (exported from Belgium to the USA) were reportedly captive-bred, but this should be viewed with suspicion as indications are the species is not frequently bred in captivity. Of the remainder, under half (42%) had declared country of origin within the species's range and Malaysia, a non-range country, was the single most important exporter (Table 2).

The overall level of recorded trade (c. 200 per year) is relatively low and is unlikely to have an adverse effect on the species; however there are indications that in parts of its range it is not abundant and trade may affect populations locally.

Table 1. Apparent minimum net imports of *Psittacula roseata* reported to CITES, 1981-1985.

	1981	1982	1983	1984	1985
Sweden	-	19	-	-	-
UK	-	-	-	-	30
USA	188	448	-	150	1
Total	188	467	0	150	31

Table 2. Reported countries of origin (or exporting country if no original source reported) and quantities of transactions in *Psittacula roseata* reported to CITES, 1980-85.

	1981	1982	1983	1984	1985
Country of origin within range of <i>P. roseata</i>					
India	46	-	-	-	-
Thailand	-	-	-	150	30
Country of origin outside range of <i>P. roseata</i>					
Belgium	-	341*	-	-	-
China	-	-	-	-	1
Malaysia	142	107	-	-	-
Singapore	-	19	-	-	-

* = captive-bred

CONSERVATION MEASURES The species can be expected to occur in several protected areas.

Bangladesh Totally protected under the Wildlife Preservation Act, 1973.

Bhutan No information.

Burma Not protected under the Wildlife Preservation Act, 1936.

China Not protected.

India All Indian Psittacidae are classified as small game and may thus be hunted under licence. Export is prohibited under the Exports (Control) Order, 1977.

Kampuchea No information.

Laos No information.

Thailand A quota system for export of *Psittacula* spp. operates, excluding *P. alexandri* and *P. eupatria* which are fully protected (Jintanugool et al., 1983). Each licensee was permitted a bag limit of 15 birds and a trading limit of 60 in 1982.

Viet Nam No information.

CAPTIVE BREEDING The species has been kept in captivity at least since the 19th century (Low, 1986a). It is bred in captivity, though raising young to fledged state is apparently problematic (Smith, 1979).

GREY PARROT, AFRICAN GREY PARROT

Recommended list: 2
[Possible problem]

Psittacus erithacus Linné, 1758

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS This species comprises two or three subspecies and is widely distributed in tropical Africa. *P.e. princeps* (now usually regarded as indistinguishable from the nominate race) occurs only on Bioko, Sao Tomé and Príncipe and is listed in CITES Appendix I. The other subspecies occur in Guinea-Bissau, Guinea, Sierra Leone, Liberia, Mali, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo, Zaire, Central African Republic, Angola, Uganda, Kenya, Tanzania, Rwanda and Burundi. Its overall status was described in 1973 as generally common but perhaps locally scarce. It is certainly rare or uncommon in some countries e.g. Togo, Benin and Mali and has probably decreased in some areas in most countries, especially near human habitation. Inhabits evergreen tropical forests and mangroves but visits savannah woodland and open country to feed.

The recorded trade during 1981-85 ranged between 25 760 in 1981 to 46 294 in 1983, and the most important origin countries were, respectively, Cameroon, Mali, Ghana, Liberia, Togo and Zaire. Small numbers were reported as originating in 15 other range countries and 46 non-range countries. The species is protected in Uganda and Nigeria (only from April 1985). In Ghana there was a ban on export during 1981 and until the end of June, 1982. In Zaire export was restricted to a maximum of two birds per permit until 7 February, 1984, and subsequently there was a ban on export until 16 January, 1986. These restrictions were reflected by a considerable decrease in trade from this source in 1985. Exports are now permitted again but limited to one or two per person per year.

The substantial trade in this species, coupled with the large numbers originating in countries where the species is not common or where export was banned, suggests that further studies are required to establish the effect of trade on the species.

DISTRIBUTION Found across central Africa from the Gulf of Guinea east to western Kenya and north-western Tanzania, and south to northern Angola. Three subspecies have been recognised, though the validity of *P. e. princeps* is questioned. It is reportedly larger and darker than the nominate subspecies, from the mainland, but Amadon (1953) pointed out that there is a cline of increasing size from west to east, the birds from the continent to the east being larger still. He also pointed out that colour was related to state of plumage. *P. e. princeps* is listed in Appendix I, but in view of the fact that it is almost certainly not distinct from the mainland populations, and that it occurs at an "extraordinary" population density, this listing should be re-evaluated.

P. e. erithacus Linné: widespread in central Africa from south-eastern Ivory Coast to western Kenya and south to northern Angola, southern regions of the Congo and north-western Tanzania (Forshaw and Cooper, 1978). Present in Mali (Lamarque, 1980) and found locally in Cameroon (Louette, 1981).

Angola Confined to the north of the country. Recorded from near Lândana in Cabinda. To the south of the strip of Zaire, it is only known from the north of Lunda: in Cassanga, in the gallery forests of the Cuango, from Caungula and south of Dundo (Pinto, 1983).

Benin Found in the forested region of the north (Bouet, 1961). Not seen in twenty months of observations covering much of the country (Brunel, 1958).

Burundi Snow (1978) mapped records in the country.

Cameroon Only present in forest and larger galleries, for example near Bafia, Belabo and Obala. Recorded from Yabassi, Belabo, Olounou and Meyo Nkoulou (Louette, 1981). Said to be widely distributed on Cameroon Mountain up to 2000 ft (610 m) (Young, 1946), but absent from Buea (Bannerman, 1951). Recorded from Mannsquelle, Sakbayémé, Okhon, Wuri, Victoria and Baroumbi (Bouet, 1961).

Central African Republic Recorded from Bangui. The probable (northern) limit is the southern basin of the Ouaka River (Blancou, 1933; Bouet, 1961) and, in the west, Bouar (Malbrant, 1952). Seen regularly on the Ile de Kembe, 25 km upstream from Bangui (Jehl, 1976).

Congo Spread throughout the country in regions where the palm *Elaeis* is found (Malbrant and MacLatchy, 1949). Recorded from Brazzaville, Nambouli and Mt Fouari (Verschuren and Mankarika, 1982); Divenié, the banks of the Congo and from the coast at Loango (Bouet, 1961).

Equatorial Guinea Present (Bannerman, 1931a).

Gabon Spread throughout the country in regions where the palm *Elaeis* is found. Seasonal migrations were noted (Malbrant and MacLatchy, 1949). Said to be spread throughout the forested areas (Rand et al., 1959). Recorded from Lake Onangué, Mouïla, Mimongo, and Kango (Bouet, 1961).

Ghana Locally distributed in Ashanti. Recorded from Goaso, Mampong and Ejura (Bannerman, 1951); Akine, Abieri, Lake Bosumtwe, Goebo, Mampong, Achimota, Ateboubou and Coumassie (Bouet, 1961). The most northerly record is from Ateboubou, and the species was reported to be most abundant in the Kumasi district (Bannerman, 1931a). Grimes (1987) described it as a local resident throughout the forest zone, mainly confined to forest reserves but occasional in forest clearings.

Kenya Confined to the west (White, 1965). Occurs in the Kakamega and Nandi forests (Britton, 1980).

Ivory Coast Occurs south of 8°N only to the east of the Bandama River, which forms the division between *P. e. erithacus* and *P. e. timneh*. There is no gap between the subspecies (Thiollay, 1985). Recorded from Aboisso, Bettié, Alépé and Ery Macouguié (Bouet, 1961).

Mali Recorded from south of the Monts Mandiques. Birds on sale in Bamako market were said to have come from close to the Guinea border (Lamarche, 1980).

Nigeria Confined to the forest region in the south (Bannerman, 1931a), from Lagos to Calbar and north to Ife and Ogoja, where large enough areas of mature high forest remain (Elgood, 1982). Said to live only in areas of creeks and swamps; recorded from Epe, Okitipupa, Abraka and Warri, and in Owerri Province from Afikpo and Okigwi (Bannerman, 1951). Recorded from Degma and Oguta, southern Nigeria (Neumann, 1908); Bonny, Lagos, and Lakki Lagoon (Bouet, 1961).

Rwanda Snow (1978) mapped records in the country.

Senegal Bouet (1961) considered that the only record from Senegal probably represented an escape.

Psittacus erithacus

Tanzania Confined to the north-west, in Bukoba. A sight record from Kasanga on the south-east shore of Lake Tanganyika is considered dubious (Britton, 1980). There is also a sight record from Mt Kilimanjaro (Bangs and Loveridge, 1933) which Mackworth-Praed and Grant (1952) consider may be a separate subspecies.

Togo One specimen was recorded at Mo (9°5' N, 1°3'E) (Cheke and Walsh, 1980). Recorded by Millet-Horsen (1923) from "Bas-Togo".

Uganda Occurs in the west and South of the country, from Budongo, Bugoma, and Bwamba forests, and in Rwenzori National Park east to Mengo and Busoga, including the Sese Islands (Britton, 1980).

Zaire Distributed from the Tanzania border, across the Manièma and the Kasai, to Kinshasa (Lippens and Wille, 1976).

P. e. princeps Boyd Alexander: Restricted to the islands of Bioko (Equatorial Guinea), Principe and probably Sao Tomé in the gulf of Guinea. Forshaw and Cooper (1978) consider that this subspecies is probably not distinct from *P. e. erithacus*. See also Naurois (1983b).

Equatorial Guinea Resident on Bioko (Naurois, 1983b). Recorded from Banterberi, Bioko (Neumann, 1908).

Sao Tomé and Principe Present on Principe; particularly large nesting groups occur in the west and south of the island. Previously considered to be absent from Sao Tomé, but unconfirmed, though reliable reports suggest that that there are two or three small colonies in the north of the island. A caged bird was also reported to have been captured on the island. Unpublished letters from the 19th Century indicate that this species arrived occasionally from Principe during storms (Naurois, 1983b). Günther and Feiler (1985) were unable to confirm their existence on Sao Tomé, receiving contradictory information from the locals, some of whom, however, assured them that they were present on the island. It is not known whether they represent natural arrivals or cage escapes. Absent from Annobon Island (Naurois, 1983b). Recorded from Bellavista, Principe (Neumann, 1908).

P. e. timneh Fraser: found in southern Guinea, Sierra Leone, Liberia and westernmost parts of Ivory Coast (Forshaw and Cooper, 1978). Naurois (1981) reports it is also found on the southern islands of the Bijagos Archipelago. Lamarche (1980) says the subspecies is found in Mali.

Guinea Klapotcz (1913) thought that it was largely restricted to the coastal zone; he recorded it from Dubreka and Konukry. Two birds, reputed to have come from the immediate vicinity, were seen in captivity at Condoya, Kindia (Bournonville, 1967). It has also been recorded inland in the south-east from Iriye, Nzèrekôrè, Balemou, Mt Nimba and Macenta and between Macenta and Guékédu (Bannerman, 1931b).

Guinea-Bissau Present in various wooded localities both on the continent and on some northern islands of the Bijagos Archipelago; observed on Caravela Island and also present on other islands (Frade et al., 1946, see Naurois, 1981; Frade and Bacelar, 1955). In 1961 and 1964, Naurois (1981) observed this species on some islands in the central and southern parts of the archipelago (Joao Vieira, Poelao, Melo and Formoza) and sometimes flying between islands.

Ivory Coast Occurs south of 8°N only to the west of the Bandama River, which forms the division between *P. e. erithacus* and *P. e. timneh*. There is no gap between the subspecies (Thiollay, 1985). Recorded from near Bingerville, Songboagban in the region of Dabou (Bouet, 1961).

Liberia Said to be the characteristic parrot of the country (Allen, 1930), having a wide habitat area (Liberia CITES MA, 1986). Observed and collected along the St Paul's, as far as Soforé Place, and in the whole district of Grand Cape Mount, as far as Cobolia, on the Marfa River (Büttikofer, 1885); at Schieffelinsville, Hill Town and the St John's, Cess and Sinoe Rivers (Büttikofer, 1888); and Robertsport (Büttikofer, 1890). Recorded from Boloma and Fassawalazu in Lofa County (Schouteden, 1970), Bella Yella (Schouteden, 1971), White Plains, Guédétabo Plantations, Cape Palmas and Sadrou (Bouet, 1961). A roost was observed at Alin Island, St Paul's River (Allen, 1930).

Mali *P. e. timneh* is said to occur in Mali as well as *P. e. erithacus* (Lamarche, 1980).

Sierra Leone Recorded on Tasso and Yatward Islands, at the mouth of the Rokel River (Lowe, 1921), and Sherboro Island (Bannerman, 1931a). Neumann (1908) reported a specimen from Sierra Leone which was apparently intermediate between *P. e. timneh* and *P. e. erithacus*. Recorded from Gola West Forest Reserve (7°28'N, 11°19'W) and Tiwai Island (7°33'N, 11°21'W) in 1985 (Davies, 1987).

POPULATION Serle and Morel, (1977) described the species as locally abundant especially in swamp and mangrove forest. Mackworth-Praed and Grant (1977) remarked that in most areas it appeared to be decreasing, although earlier (1952) they had suggested that in East Africa it was extending its range. Forshaw and Cooper (1978) described the species as generally common but perhaps locally scarce, especially near towns and villages.

Angola Said to be relatively frequent near Lândana, Cabinda, and not rare at Cassange in the north of Lunda (Pinto, 1983).

Benin Brunel (1958) thought that if it occurred at all, it was certainly very rare; he did not see any during 20 months of observation. Reported as very rare in the forested region north of Sakété (Bouet, 1961).

Burundi No information.

Cameroon Said to be widely distributed on Cameroon Mountain and, at least seasonally, very abundant (Bannerman, 1951). Status elsewhere not precisely known but apparently not threatened (Cameroon CITES MA, 1987).

Central African Republic On the Ile de Kembe two or three parrots were regularly seen flying over in the evening. A flock of 45 was considered exceptional (Jehl, 1976).

Congo Said to be uncommon near large cities, in particular Brazzaville, where it is becoming more and more rare, but common at Nambouli. Still fairly abundant in the countryside, and the most frequently observed birds flying over the forest and gallery woodland; abundant at Mt Fouari (Verschuren and Mankarika, 1982). It was reported to be common in the Congo Basin, Pool, Likouala and Kouilou, and sometimes encountered in the rest of the country, where it makes seasonal migrations (Congo CITES MA, 1986). Curry-Lindahl (1960, see Forshaw and Cooper, 1978) reported great roosting flocks at Barombi Lake.

Equatorial Guinea No information.

Gabon The populations of *P. erithacus* in Gabon remain considerable (Gabon, Direction de la Faune et de la Chasse, *in litt.*, 1985).

Psittacus erithacus

Ghana In the 1940s flocks of 500-1000 were encountered (Horwood cited in Grimes, 1987). It was reported to be most abundant in the Kumasi district (Bannerman, 1931a). More recently Grimes (1987) described it as uncommon and locally distributed; illegal export having greatly reduced the population. Usually seen in groups of two or three.

Guinea No information.

Guinea-Bissau Said to be numerous on Joao Vieira, Bijagos Archipelago; there was also an abundant (several tens), if transient, population on Melo. Joao Vieira was thought to be the principal roosting and nesting site (Naurois, 1981).

Ivory Coast Described as common throughout the forest zone south of 8°N (Thiollay, 1985).

Kenya Said to be a locally common resident (Britton, 1980). Mackworth-Praed and Grant (1952) considered that it might be extending its range in East Africa.

Liberia Said to be the characteristic parrot of the country, commonly seen in flocks of forty or more birds (Allen, 1930). Bannerman (1931a) said that the species occurred commonly over most parts of the country. Said to be common in the country and sometimes a plague to farmers (Büttikofer, 1885). At Firestone Plantation, Rand (1951) reported that it was uncommon and seldom seen, and at Ganta, small flocks were seen, apparently coming from distant places.

Mali Said to be uncommon (Lamarche, 1980).

Nigeria Described as a locally not uncommon resident where large enough areas of mature high forest remain (Elgood, 1982). In Owerri Province it was thought to be uncommon and evidently decreasing, probably owing to exploitation and destruction of forest (Marchant, 1942), although in remaining stands of high trees it was said to still be common (Heslop in Bannerman, 1951). Said to be common in many districts east of Lagos (Bannerman, 1931a). In general, now considered to be rare and threatened (Nigeria CITES MA, 1987).

Rwanda No information.

Sao Tomé and Príncipe Present in an extraordinary density on the small island of Príncipe, although the population appears to have suffered a perceptible reduction over the past 100 years (Naurois, 1983b), and in particular since 1968 (Naurois, 1983a). Two or three small colonies probably exist on Sao Tomé (Naurois, 1983b).

Sierra Leone Bannerman (1931b) thought that this species was not as plentiful in the forests of Sierra Leone as it was in Liberia. He reported that it was plentiful at Bonthe in Sherboro Island (Bannerman, 1931a). Said to be tolerably common at the southern end of Tasso Island (Lowe, 1921). Apparently a relatively healthy population at present (Sierra Leone, Ministry of Agriculture and Forestry, *in litt.*, 23 March 1987).

Tanzania Said to be a locally common resident (Britton, 1980). Mackworth-Praed and Grant (1952) considered that it might be extending its range in East Africa.

Togo Millet-Horsen (1923) described the status in "Bas-Togo" as very rare north of "the lagoon", becoming less rare further north. There is only one subsequent record from the country (Cheke and Walsh, 1980).

Uganda Said to be a locally common resident (Britton, 1980). Mackworth-Praed and Grant (1952) considered that it might be extending its range in East Africa. The highest populations are apparently in Buganda and on the Sese Islands (Uganda, Game Department, *in litt.*, 28 March 1987).

Zaire Marked population declines have been noted near Kinshasa (Lippens and Wille, 1976).

HABITAT AND ECOLOGY. Primarily birds of lowland forest, but they may visit savannah woodland and open country to feed. In some areas they inhabit mangroves and gallery woodland. Usually seen in small numbers, though great flocks may congregate to roost. The diet comprises seeds, nuts, berries, mostly procured in the treetops; they are particularly fond of the fruit of the oil palm (*Elaeis guineensis*). Occasionally they may raid maize crops and do considerable damage. The date of breeding is very variable across the continent. Nesting usually occurs in a hole in a tree (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Large numbers of this species were said to be on sale in Bamako market, Mali (Lamarche, 1980). In Nigeria, exploitation and particularly destruction of forest were thought to be responsible for population declines (Bannerman, 1951; Marchant, 1942). Young birds are reported to be taken from the nests and sold as cage birds on Principe (Naurois, 1981), but it was suggested that the decline in population which had been noted on Principe was attributable to the use of pesticides (Naurois, 1983a). The population declines noted near Kinshasa, Zaire, were attributed possibly to capture of birds (Lippens and Wille, 1976). In Congo, there is very little commercial exploitation except for a few which are sold by the Zoo in Brazzaville as pets (a total of 135 were sold in 1984 and 85 in 1985). There is some trade between locals, who rear them or use their feathers in ceremonies or for traditional medicine (Ministère de l'Economie Forestière, *in litt.*, 17 February 1986). Millet-Horsen (1923) reported that in "Bas-Togo" this species had religious significance, and was used in voodoo rites. In some regions of Gabon the majority of the natives were reported to possess a captive *P. erithacus*, which they kept for superstitious reasons (Malbrant and MacLatchy, 1949). The habitat of *P. erithacus* in Gabon is not seriously threatened, and populations remain considerable in spite of a small export and internal trade (Gabon, Direction de la Faune et de la Chasse, *in litt.*, 1985). Mackworth-Praed and Grant (1970) remarked that collection of young from nests occurred in some areas where they had a commercial value. Lowe (1937) referring to Ghana, opined that: "It is hoped, now that the market for live birds in England is closed, that they will increase in numbers." In Sierra Leone it is under great pressure from bird collectors (Sierra Leone, Ministry of Agriculture and Forestry, *in litt.*, 23 March 1987).

INTERNATIONAL TRADE Minimum net imports reported to CITES rose from 25 760 in 1981 to 46 294 in 1983, before falling slightly in 1984 and 1985. The chief importing countries were the USA, F.R. Germany and most other European countries, South Africa, Canada and Saudi Arabia (Table 1). The main countries of origin were Cameroon, Liberia, Togo, Mali, Ghana, and Zaire. Amongst countries with no wild populations of *P. erithacus*, Senegal stands out as consistently exporting very large quantities, presumably having previously been imported legally or illegally (Table 2). Exports of *P. erithacus* from Gabon were in the order of 128 in 1984 and 85 in 1985 (Gabon, Direction de la Faune et de la Chasse, *in litt.*, 1985), but as Gabon is not a Party it is not surprising that these are not reflected in Table 2. A total of 3919 *P. erithacus* were said to have been exported from Liberia "up to 1984" (Liberia CITES MA, 1986), however Liberia's Annual Report for that year alone records the export of 5919 birds. The Zoo in Brazzaville,

Psittacus erithacus

Congo, was reported to have sold a few parrots for export, a total of 97 in 1984 and 50 in 1985 (Congo CITES MA, 1986). This was not reflected in the CITES reports but Congo had not submitted an Annual Report for 1984. Exports from Uganda were as follows: 1981 - 66; 1982 - 123; 1983 - 65; 1984 - 86; 1985 - 14; 1986 - 140. Most of these apparently went to non-CITES States such as Saudi Arabia which explains the absence of figures for Uganda in Table 2 (Uganda, Game Department, *in litt.*, 28 March 1987).

Table 1. Minimum net imports of live *P. erithacus* reported to CITES.

	1981	1982	1983	1984	1985
Algeria	4	-	1	-	-
Austria	-	78	51	100	456
Bahamas	-	-	-	4	2
Bahrain	-	-	53	8	19
Belgium	-	-	-	1280	985
Benin	-	-	-	3	2
Botswana	-	1	-	-	-
Brazil	-	1	-	1	-
Brunei	-	-	-	-	2
Canada	159	443	607	943	733
Cayman Islands	-	-	-	-	8
Chad	-	-	-	-	2
China	-	27	2	-	-
Cyprus	-	1	1	42	93
Czechoslovakia	-	-	-	-	2
Denmark	-	305	470	495	305
Dominica	-	-	-	-	2
Egypt	-	-	-	22	2
France	103	329	-	2365	2600
German D.R.	8	2	-	1	3
Germany, F.R.	7906	7175	11861	7038	8090
Gibraltar	-	-	-	7	1
Greece	2	-	2	2	13
Greenland	-	-	-	-	1
Hungary	-	-	2	-	-
Iceland	-	-	-	1	-
India	-	-	-	8	3
Indonesia	-	-	-	-	1
Iraq	-	1	4	-	1
Israel	-	1	1	5	29
Italy	16	701	157	220	271
Ivory Coast	-	-	2	-	-
Japan	65	602	254	82	279
Jordan	-	-	-	-	29
Korea, Rep.	-	-	-	5	2
Kuwait	-	98	199	88	113
Lebanon	-	5	15	16	-
Lesotho	-	-	200	-	-
Libya	7	-	3	3	-
Malta	-	50	-	-	-
Martinique	1	-	-	-	-
Morocco	-	4	-	-	-
Namibia	-	-	-	-	3
Netherlands	64	-	-	1806	1514
Neth. Antilles	-	-	-	-	12

Table 1. continued.

	1981	1982	1983	1984	1985
Niger	-	-	2	-	-
Norway	-	-	-	20	-
Oman	-	-	2	8	176
Pakistan	-	-	-	-	15
Panama	-	-	-	-	1
Philippines	-	-	-	2	-
Portugal	-	-	1	-	10
Qatar	-	-	-	20	-
Romania	-	-	1	-	5
Rwanda	-	-	-	-	3
Saudi Arabia	2	-	179	2005	70
Singapore	-	81	-	-	104
Somalia	-	-	-	-	1
South Africa	5	792	48	3370	2203
Spain	3	7	8	344	370
Sri Lanka	-	-	1	-	-
Suriname	-	-	3	-	-
Swaziland	-	200	-	-	-
Sweden	-	947	807	778	872
Switzerland	208	309	636	166	253
Taiwan	-	-	-	50	-
Thailand	2	-	-	-	24
Trinidad & Tobago	-	1	-	26	1
Tunisia	3	-	-	1	6
Turkey	-	-	-	1	23
UAE	-	1	-	7	18
UK	692	1197	2885	1217	3990
USA	16504	24323	27782	22158	16721
USSR	1	40	47	-	126
Venezuela	-	-	-	1	-
Yugoslavia	5	-	7	1	-
Zimbabwe	-	-	-	1	1
Unknown	-	-	-	-	231
TOTAL	25760	37722	46294	44721	40802

Table 2. Reported countries of origin or export for exports of live *P. erithacus* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>P. erithacus</i>					
Angola	9	14	8	7	3
Benin	-	-	6	-	-
Cameroon	5820	5035	10386	12201	11361
Central African Rep.	-	1	804	57	788
Congo	-	-	34	2	41
Gabon	2 *	7	-	2	288

Psittacus erithacus

Table 2. continued.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>P. erithacus</i> (continued)					
Ghana	5428	5623	8721	3703	9308
Guinea-Bissau	-	1	-	3	-
Guinea	2	-	3	-	1203
Ivory Coast	-	160	41	878	588
Kenya	4	2	7	8	36
Liberia	2860	8660	3583	6019	4225
Mali	5282	8522	8585	5248	4800
Nigeria	19	61	99	52	31
Rwanda	1	2	-	2	-
Sierre Leone	-	-	3	-	-
Tanzania	1	8	5	8	7
Togo	3384	2566	927	7105	5955
Uganda	-	-	-	-	3
Zaire	1373	1341	6114	2084	179
Countries without wild populations of <i>P. erithacus</i>					
Antigua	-	-	-	3	-
Belgium	936 *	965	527	25	4
Burkina	-	-	-	-	1
Canada	-	-	-	1	1
Colombia	-	1	-	-	-
Denmark	-	-	-	-	1
Egypt	-	-	1	-	-
France	-	-	-	-	260
German D.R.	-	-	7	3	-
Germany, F.R.	-	6	8 *	-	-
Guyana	-	1	-	55	1
Hong Kong	-	2	2	-	-
Hungary	1	-	-	-	-
Israel	-	-	-	1	-
Italy	-	1	-	-	-
Kuwait	-	1	-	2	-
Madagascar	-	-	-	7	-
Malaysia	1	-	-	-	-
Namibia	-	-	-	-	2*
Netherlands	12	131	-	1	4*
Norway	-	-	-	-	3
Philippines	-	-	-	-	1*
Portugal	-	-	2	-	-
Saudi Arabia	-	-1	7	2	9
Senegal	725	4568	6322	6989	2265
Sierra Leone	-	-	-	-	1
Singapore	-	-	-	2	1
Somalia	-	-	1	-	-
South Africa	-	8	36	20	664*
Spain	-	-	1	1	-
Sudan	-	1	-	-	-
Sweden	100	-	1	451	21
Switzerland	-	-	1	-	-
Syrian Arab Republic	-	-	-	1	-

Table 2. continued.

	1981	1982	1983	1984	1985
Countries without wild populations of <i>P. erithacus</i> (continued)					
Thailand	-	-	1	-	-
Trinidad and Tobago	-	-	-	1	-
UAE	-	2	2	-	-
UK	-	-	-	-	3*
USA	-	2	88	101	125
USSR	-	-	-	2	2*
Uruguay	1	-	3	3	-
Venezuela	-	2	-	-	-
Zambia	-	-	3	-	8
Zimbabwe	1	2	8	-	3
Unknown	16	494	692	227	457

* = captive-bred

CONSERVATION MEASURES Ten of the 23 range states are not Parties to CITES. Most of the following information was derived from "African Wildlife Laws", IUCN Environmental Policy and Law Occasional Paper No. 3.

Angola Not a Party to CITES. Totally protected (S.I. No. 2873, dated 11 December 1957).

Benin Capture and export subject to licence (S.I. No. 80-38, dated 11 February 1980).

Burundi Not a Party to CITES. Not protected under S.I. No. 103, dated 4 October 1937.

Cameroon Capture and export subject to licence (S.I. No. 83/170, dated 12 April 1983).

Central African Republic Capture and export subject to licence (Acts No 84-045, dated 27 July 1984; and 84-062, dated 9 October 1984).

Congo Capture and export subject to licence (S.I. 48-83, dated 21 April 1983; and Act No. 49/83, dated 21 April 1983).

Equatorial Guinea Not a Party to CITES.

Gabon Not a Party to CITES. All capture and export of wildlife is subject to licence (Loi d'orientation en matière des eaux et des forêts, dated 22 July 1982).

Ghana There was a ban on export from May 1980 and until the end of June 1982. Capture and export subject to licence (L.I. No. 685, dated 4 March 1971; L.I. 1240, dated 15 May 1980; CITES Notification No. 231, dated 13 October 1982).

Guinea Not protected under Decret No. 370 P.R.G., dated 27 October 1966.

Guinea-Bissau Not a Party to CITES. Totally protected (S.I. No. 21/1980, dated 12 May 1980).

Psittacus erithacus

Kenya Totally protected (Act 1 of 1976, dated 10 February 1976).

Ivory Coast Not a Party to CITES. Capture and export subject to licence (Act No. 65-255, dated 4 August 1965).

Liberia A draft wildlife conservation regulation lists all parrots as totally protected.

Mali Not a Party to CITES. Capture and export subject to licence (Ordonnance No. 4/CMLN, dated 25 January 1971).

Nigeria Totally protected (Act No. 11, dated 20 April 1985).

Rwanda Not protected under S.I. No. 251/01, dated 31 December 1974.

Sao Tomé and Príncipe Not a Party to CITES.

Senegal Included on a list of species for which export is subject to quotas, despite the fact that it does not occur in the country (S.I. No 754/MC/SEEF, dated 1 February, 1982).

Sierra Leone Not a Party to CITES. Defined as a game species under Act 27 of 1972.

Tanzania Capture and export subject to licence (Act No. 12 of 1974, dated 30 June 1974).

Togo Capture and export subject to licence (Act No. 4, dated 16 January 1968; and S.I. No. 80-171, dated 4 June 1980).

Uganda Not a Party to CITES. Totally protected (Act No. 4 of 1959).

Zaire Export was restricted to a maximum of two birds per permit until 7 February 1984, and subsequently there was a ban on export until 16 January 1986 (CITES Notification No. 284, 15 March 1984). Exports are now permitted again but limited to one or two per person per year (CITES Notification No. 372, 16 January 1986). Totally protected (Act No. 82-002, dated 28 May 1982).

CAPTIVE BREEDING A popular avicultural bird because of its very good talking ability, it has been recorded as breeding as early as 1770. It has since been bred in many countries but very few aviary-bred strains have been established although the number of young bred increases annually. *P. e. timneh* has seldom been bred (Low, 1986a).

REDDISH-BELLIED PARAKEET
MAROON-BELLIED CONURE

Recommended list: 2
[Possible problem]

Pyrrhura frontalis (Vieillot, 1817)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Primarily a forest species from south-eastern Brazil, Paraguay, Uruguay and north-eastern Argentina. Common over many parts of its range, although extirpated from intensive agricultural areas, and has declined as a result of forest destruction. May occasionally cause damage to fruit crops and corn. Has bred regularly in captivity.

Minimum net trade reported to CITES in the years from 1981 to 1985 varied between 3110 and 6003. The chief importers were F.R. Germany and the USA. The majority of the exports apparently originated in Argentina. Banned from export from all range countries except Argentina, where it is regarded as an injurious species.

The species is relatively common, and is undoubtedly capable of sustaining an export trade, its primary threat being forest destruction. However recent reports that it has become scarce as a result of direct persecution in Argentina, the main exporting country, should be investigated.

DISTRIBUTION South-eastern South America including south-eastern Brazil, south to north-eastern Uruguay and north-eastern Argentina and eastern Paraguay. Three subspecies are recognised.

P. f. frontalis (Vieillot): confined to south-eastern Brazil, from south-eastern Bahia, where only definitely known from Bonfim a seemingly unlikely arid locality (Ridgely, 1982) through eastern Minas Gerais to Rio de Janeiro (Forshaw and Cooper, 1978). Recorded in Rio de Janeiro from Serra do Tingua, Serra da Siberia and Serra dos Orgaos National Park (Scott and Brooke, 1985).

P. f. kriegi Laubmann: south-eastern Brazil, from western Minas Gerais through Sao Paulo and Parana to Rio Grande do Sul (Forshaw and Cooper, 1978) where it is found only in the north and east (Ridgely, 1982), and the south of Mato Grosso (Sick, 1984).

P. f. chiripepe (Vieillot):

Argentina Found in the north-east of the country, in the provinces of Salta, Formosa, Misiones, Corrientes and Chaco (Forshaw and Cooper, 1978). A map in Olrog (1984) indicates a more restricted distribution than this.

Paraguay Found in the east of the country. Present in parks in Asuncion and on both banks of the Rio Paraguay (Ridgely, 1981). Recorded from Puerto Pinasco, but not from further inland (Wetmore, 1926). The extent of its penetration into the Chaco of western Paraguay is uncertain (Ridgely, 1982).

Uruguay Recorded in the northeast in the departments of Cerro Largo, Treinta y Tres, and Rocha (Gore and Gepp, 1978).

POPULATION Common over many parts of its range, although extirpated from intensive agricultural areas. Considerably more numerous than any other parrot with a similar range in south-eastern South America (Ridgely, 1982).

Pyrrhura frontalis

Argentina Said to be common in moist forest and transition woodland (Olrog, 1984) but Navas (Argentina CITES MA, 1986) reported that it had become scarce as a result of direct persecution and the almost total destruction of its habitats. Said to be the most common parrot in Misiones (Eckelberry, 1965). Wetmore (1926) reported that it was common at Las Palmas, in Chaco. Ridgely (1982) described it as generally common, but indicated that populations in some areas were reduced owing to removal of natural forest.

Brazil Common in what is left of the forests of all of south-eastern Brazil, although its numbers have doubtless declined over the past century owing to forest destruction. Abundant in Itatiaia National Park (Ridgely, 1979). Belton (1984) reported that it was the most common parrot in forests in the north of Rio Grande do Sul, but was relatively scarcer in the south, where there is less suitable habitat. Said to be common in Rio de Janeiro in Serra do Tingua, Serra da Siberia and Serra dos Orgaos National Parks (Scott and Brooke, 1985). Ridgely (1982) stressed that although it remains relatively abundant, a great decrease in overall numbers has taken place in the last half century.

Paraguay Wetmore (1926) found them to be common near Puerto Pinasco. Ridgely (1982) described it as common over much of the east of the country where forest cover remains but somewhat less numerous southward.

Uruguay Rare in the north-east of the country (Gore and Gepp, 1978).

HABITAT AND ECOLOGY. Primarily a forest bird, but occurs commonly in lighter gallery woodland and *Araucaria* forest, ranging into adjacent clearings, especially to feed. Found mostly in the lowlands, but ranges up to at least 1400 m in the north of the range in Brazil, where it is displaced by other species from the lower areas (Ridgely, 1981). Usually seen in flocks of 10-40 birds. Feed mainly on seeds, fruits, nuts, berries, blossoms and possibly insects. *P. frontalis* has been reported to cause considerable damage to orange orchards and will attack "milky" maize (Forshaw and Cooper, 1978) and other fruit crops, although such depredations are light in comparison with other species (Sick, 1984). Nesting has been reported in hollow trees, with clutches of up to five eggs (Forshaw and Cooper, 1978; Sick, 1984).

THREATS TO SURVIVAL The species is reported to have suffered considerably from forest destruction (*P. Roth, in litt.*, 17 December 1985; Argentina CITES MA, 1986; Ridgely, 1982) although it is also said to be quite tolerant of disturbed conditions, persisting even in urban parks, but not in areas given over entirely to agriculture (Ridgely, 1981). Direct human persecution has also been implicated in its population decline (Argentina CITES MA, 1986).

INTERNATIONAL TRADE Minimum net imports reported to CITES in the years from 1981 to 1985 varied between 3110 and 6003 (Table 1). The chief importers were F.R. Germany and the USA. The majority of the exports apparently originated in Argentina, but 60 birds were reported as exports from Bolivia in 1984 (Table 2).

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information was mainly extracted from Fuller *et al.* (1987).

Argentina Considered a harmful species and therefore excluded from a general ban on trade in wildlife under Resolution No. 62 of 14 March 1986 (CITES Notification No. 412, 28 November 1986).

Pyrrhura frontalis

Brazil All exports of live wildlife have been prohibited since 1967.

Paraguay All exports of wildlife have been prohibited since 1975.

Uruguay With few exceptions, all native wildlife is protected, and hunting and export are prohibited.

CAPTIVE BREEDING The species is a relatively common pet, and has been bred in captivity in several countries (Low, 1986a).

Table 1. Minimum net imports of live *P. frontalis* reported to CITES.

	1981	1982	1983	1984	1985
Austria	-	-	-	-	4
Canada	-	-	350	60	270
Denmark	-	-	-	-	110
France	-	-	-	60	525
Germany, F.R.	150	2560	20	80	396
Hong Kong	-	-	-	-	100
Hungary	-	-	-	-	50
Italy	-	-	200	-	30
Japan	-	-	65	-	-
Korea	-	2	-	-	-
Kuwait	-	-	-	-	12
Malta	-	-	-	-	4
Netherlands	460	-	-	-	-
Philippines	-	-	100	-	-
Portugal	-	25	-	-	4
Saudi Arabia	-	-	-	-	90
Singapore	-	-	-	-	20
Spain	62	4	-	50	-
Sweden	-	40	300	32	-
Switzerland	-	-	-	24	-
Taiwan	-	-	-	-	40
UK	500	-	-	-	250
USA	2450	3100	4988	2754	3320
Unknown	-	-	-	50	20
TOTAL	3622	5731	6003	3110	5245

Pyrrhura frontalis

Table 2. Reported countries of origin or export for exports of live *P. frontalis* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>P. frontalis</i>					
Argentina	3622	5729	6003	3078	5225
Countries without wild populations of <i>P. frontalis</i>					
Bolivia	-	-	-	60	-
German D.R.	-	-	-	32	20
Unknown	-	2	-	-	-

MAROON-TAILED PARAKEET
MAROON-TAILED CONURE

Recommended list: 3
[No problem]

Pyrrhura melanura (Spix, 1824)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS Found primarily east of Andes in southern Venezuela, Colombia, eastern Ecuador and north-east Peru west to Rio Negro in Brazil. One subspecies occurs west of the Andes in south-west Colombia. Inhabits a variety of forest types from cloud forest to varzea, including clearings and partially deforested areas. Usually common where it occurs. Declining in popularity as a cage bird, but has bred.

Minimum net imports reported to CITES amounted to 177 in 1981 and 208 in 1982. There was no trade in wild-caught *P. melanura* in 1983, 1984 or 1985. All exports of wild birds originated in Ecuador, except for a single shipment of 20 birds reported as an import to F.R. Germany from Bolivia in 1981. The species is protected or banned from export in all countries of origin.

The export ban imposed in Ecuador in 1983 appears to have been effective in halting the trade. The levels of exports reported in 1981 and 1982 were minimal. As the species is thought to be common in Ecuador, no problems are envisaged, although further trade should not be permitted as the species is protected or banned from export in all range countries.

DISTRIBUTION Venezuela, Colombia, eastern Ecuador and north-east Peru west to Rio Negro in Brazil.

P. m. melanura (Spix): ranges from north-eastern Peru, extreme south-eastern Colombia, north-west Brazil and southernmost Venezuela. May intergrade with *P. m. souancei* in Colombia, Ecuador and extreme northern Peru.

Brazil Found in north-western Brazil in western Amazonas, in the upper Rio Negro basin. Perhaps also in western Roraima; ranging south to, but not beyond, the Amazon River (Ridgely, 1982).

Colombia Confined to the extreme east and south (Forshaw and Cooper, 1978). From Vaupés (San José de Guaviare) to extreme southeast Guainia (Macacuni) and Amazonas (Hilty and Brown, 1986). Appears to intergrade with *P. m. souancei* closer to the Andes (Ridgely, 1981).

Ecuador Appears to intergrade with *P. m. souancei* in the far eastern lowlands (Ridgely, 1982).

Peru Confined to the north-east (Forshaw and Cooper, 1978). Appears to intergrade with *P. m. souancei* to the west (Ridgely, 1982).

Venezuela South/central Bolivar along the Rio Paragua, and in southern Amazonas, south of the Rio Ventuari (Meyer de Schauensee and Phelps, 1978).

P. m. souancei (Verreaux): occurs east of the Andes in Colombia, eastern Ecuador and northern Peru.

Colombia Occurs east of the Andes in Caqueta and Meta (Forshaw and Cooper, 1978). Hilty and Brown (1986) described its range as up to 500 m altitude, from the Macarena Mountains south to Putumayo.

Pyrrhura melanura

Ecuador East of the Andes. May range well up the Andean slopes to at least 1600 m (Ridgely, 1981).

Peru Found in the north-east. Intergrading with *P. m. melanura* to the east (Ridgely, 1982).

P. m. berlepschi Salvadori: Known only from the Huallaga Valley in eastern Peru (Forshaw and Cooper, 1978). May intergrade with *P. m. souancei* (Ridgely, 1981), or even be an aberrant form of it (Forshaw and Cooper, 1978).

P. m. pacifica Chapman: The only subspecies recorded from west of the Andes; found in southern Colombia and north-western Ecuador. Restricted to the hilly, upper tropical zone (Ridgely, 1982).

Colombia Confined to the pacific slope of Narino (Hilty and Brown, 1986; Ridgely, 1982).

Ecuador Recently found in Pichincha, and presumably extending northwards through the intervening Esmeraldas to Colombia (Ridgely, 1981).

P. m. chapmani Bond and Meyer de Schauensee: Confined to Colombia in the upper Magdalena Valley, mostly around 1600-2800 m, from southern Tomina to the head of the valley in Huila (Hilty and Brown, 1986). A record from Belén, Caqueta on the east slope of the Andes is anomalous and was apparently mis-identified.

POPULATION Ridgely (1982) described the species as fairly common to common over much of its range. The population of all races was thought to be essentially stable but *P. m. berlepschi* was very poorly known.

Brazil Ridgely (1979) considered that the species was "doubtless numerous" in the little-inhabited Brazilian part of its range.

Colombia Dugand and Borrero (1948, see Forshaw and Cooper, 1978) found it to be one of the two commonest parrots near Tres Esquinas, Caqueta. Ridgely and Gaulin (1980) reported it to be easily the most numerous parrot at Finca Merenberg in Huila. Ridgely (1982) suggested that *P. m. pacifica* may never have been especially numerous but that *P. m. chapmani* remained common in its limited range even in deforested areas. Hilty and Brown (1986) stated that it was often fairly common, but the distribution was patchy; some seasonal movement was thought possible.

Ecuador Chapman (1926, see Forshaw and Cooper, 1978) found the species to be common throughout most of its range in Ecuador and Pearson (1972) summarised its status to be common around Lake Limoncocha in the north-east. Butler (1979) listed it as frequently seen in eastern Ecuador. Ridgely (1982) stated that *P. m. souanci* was fairly common locally in its range and that although *P. m. pacifica* seemed uncommon it may possibly have been increasing.

Peru O'Neill (1981) pointed out that the species was poorly known in Peru and that its status was unknown. Parker et al. (1982) listed it as uncommon in Peru. Ridgely (1981) considered that *P. m. berlepschi* may be rare but that considering the status of other subspecies, this seemed unlikely and it was probably only very local. He thought that *P. m. souanci* and *P. m. melanura* should occur in stable numbers.

Venezuela Phelps and Phelps (1958, see Forshaw and Cooper, 1978) reported it to be locally distributed in Venezuela. Ridgely (1982) stated that the region it inhabits is remote and remains little disturbed.

HABITAT AND ECOLOGY. Found in various forest habitats ranging from cloud forest to Varzea forest along Amazonian rivers; it also occurs along its edges and in clearings (Ridgely, 1981). Usually seen flying in groups of six to twelve, or sometimes in larger flocks. Food comprises seeds, fruits, nuts, berries and probably blossoms (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL Ridgely (1982) considered that the species was ecologically adaptable, pointing out that it regularly occurred in substantial numbers in clearings and partially deforested areas.

INTERNATIONAL TRADE Minimum net imports reported to CITES amounted to 177 in 1981 and 208 in 1982. There was no trade in wild-caught *P. melanura* in 1983, 1984 or 1985. The average trade over the five-year period was therefore less than a hundred a year. The main importing countries were the USA, F.R. Germany and the UK. All exports of wild birds originated in Ecuador, except for a single shipment of 20 birds reported as an import to F.R. Germany from Bolivia in 1981.

Table 1. Minimum net imports of live *P. melanura* reported to CITES.

	1981	1982	1983	1984	1985
Brazil	-	-	-	4	-
France	20	-	-	-	-
Germany, F.R.	48	26	-	-	-
Netherlands	22	-	-	-	-
Switzerland	-	4	-	-	-
UK	-	73	-	-	-
USA	87	105	-	-	-
TOTAL	177	208	0	4	0

Pyrrhura melanura

Table 2. Reported countries of origin or export for exports of live *P. melanura* reported to CITES.

	1981	1982	1983	1984	1985
<hr/>					
Countries having or possibly having populations of <i>P. melanura</i>					
Ecuador	157	208	-	-	-
Countries without wild populations of <i>P. melanura</i>					
Bolivia	20	-	-	-	-
Netherlands	-	-	-	4*	-

* = captive-bred

CONSERVATION MEASURES All of the range states are Parties to CITES. The following information was extracted from Fuller et al. (1987).

Brazil All wildlife exports have been banned since 1967.

Colombia Commercial hunting of all birds has been prohibited since January 1973 under Resolucion No. 849.

Ecuador All exports of indigenous wildlife have been prohibited since 1983, except for educational or scientific purposes.

Peru All commercial hunting of wildlife in the Selva region, east of the Andes has been prohibited since 1973. Not included in a list of species allowed for export (CITES Notification to the Parties No. 389, 7 May 1986).

Venezuela With few exceptions, all hunting of indigenous wildlife has been prohibited since 1970.

CAPTIVE BREEDING The species was imported to Europe in quite large numbers after 1967, but has recently declined in popularity, and is once again rare in captivity. Comparatively few breeding successes have been recorded (Low, 1986a).

GREEN-CHEEKED PARROT
GREEN-CHEEKED CONURE

Recommended list: 3
[No problem]

Pyrrhura molinae (Massena and Souancé, 1854)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A common and adaptable species with its main population in Bolivia but also extending into Mato Grosso (Brazil), north-western Argentina and possibly Paraguay. Found in a wide variety of habitats up to 2000 m from humid forest to the fringes of the arid chaco. Usually seen in flocks. Not presently threatened by habitat modification. Rarely kept in captivity.

Minimum net imports reported to CITES decreased from 1555 in 1982 to zero in 1985. Almost all the exports apparently originated in Bolivia, and this may explain why the trade volume declined so sharply in 1984, when the export ban was imposed. Banned from export from all countries within its range.

The species is reported to be common in Bolivia, where most of the exports originated, and it is probable that even the peak levels of trade were within sustainable limits. The low levels reported following the Bolivian export ban give no cause for concern.

DISTRIBUTION Brazil (Mato Grosso), Bolivia, north-western Argentina and possibly Paraguay. Five subspecies are usually recognised although Ridgely (1982) thought that only three were valid. *P. hypoxantha*, known only from four specimens in south-west Brazil, is now thought to be a localised variant of *P. molinae* (Ridgely, 1982).

P. m. molinae (Massena and Souancé):

Bolivia Restricted to the highlands of the country (Forshaw and Cooper, 1978). Bond and Meyer de Schauensee (1943) cite records from La Paz, Santa Cruz, Cochabamba, Beni, all in Bolivia. Nores and Yzurieta (1984b) record this subspecies from Santa Cruz. Recorded from near San José de los Chiquitos, Santa Cruz (Olrog, 1963a) and near Tatarendá, Santa Cruz (Lönnberg, 1903).

Brazil Naumburg (1930) provides records from Mato Grosso, but this may have been *P. m. phoenicura*.

P. m. phoenicura (Schlegel):

Brazil Confined to west-central Mato Grosso (Forshaw and Cooper, 1978).

Bolivia Forshaw and Cooper (1978) also recorded it from neighbouring areas of north-eastern Bolivia.

P. m. sordida Todd:

Brazil Found in southern Mato Grosso (Forshaw and Cooper, 1978).

Bolivia Also recorded in easternmost Bolivia (Forshaw and Cooper, 1978).

P. m. restricta Todd: known only from the type locality, Chiquitos in Bolivia (Forshaw and Cooper, 1978).

Pyrrhura molinae

P. m. australis Todd:

Bolivia Occurs in Taija, in the south (Bond and Meyer de Schauensee, 1943; Nores and Yzurieta, 1984b).

Argentina North-western areas in Jujuy, Salta and occasionally Tucuman (Forshaw and Cooper, 1978).

Paraguay Ridgely (1981) suggests that it should also occur in Paraguay, particularly along the banks of the Rio Paraguay in the north, and Short (1975) records a specimen apparently collected in this area.

POPULATION Ridgely (1982) described it as generally common, being most abundant in deciduous woodland, but by no means rare in more humid subtropical forests. Populations were thought to be stable and nowhere at risk.

Argentina Olrog (1984) reported that it was abundant in humid forest and transition forest. Furthermore Ridgely (1982) said that it was seemingly fairly common within its small range; considerable suitable habitat remained. Navas (Argentina CITES MA, 1986) however described the species as "very scarce" and endangered by persecution and habitat destruction.

Bolivia Niethammer (1953, see Forshaw and Cooper, 1978) reported it to be the dominant species along with *Pionus sordidus* in the forested valleys around Pojo and Irupana. Ridgely (1979) said that the species was numerous in Bolivia. Listed as common in the transition zone near San José de los Chiquitos, Santa Cruz (Olrog, 1963). Reported in large flocks near Tatarenda, Santa Cruz (Lönnberg, 1903).

Brazil Ridgely (1982) said that it was common and conspicuous around Corumba, even in partially settled and cleared areas; little information from elsewhere but not thought to have declined appreciably.

Paraguay No information.

HABITAT AND ECOLOGY. Found in a wide variety of habitats from humid subtropical forest to deciduous woodland and patchy gallery forest, at elevations from the lowlands up to 2600 m in Bolivia. Apparently unique amongst *Pyrrhura* spp. in its ecological adaptability (Ridgely, 1982). It is generally seen in large flocks of 20 or more and feeds on seeds, fruits, nuts, berries and probably vegetable matter. Nesting has been reported in Argentina in February in a hollow tree (Forshaw Cooper, 1978).

THREATS TO SURVIVAL Ridgely (1981) considered that large areas of habitat within the range were little disturbed, and that there were no risks at present.

INTERNATIONAL TRADE Minimum net imports reported to CITES in the years 1981 to 1985 ranged from zero to 1555 (Table 1). The chief importers were the USA and Canada. Almost all the exports apparently originated in Bolivia, and this may explain why the trade volume declined so sharply in 1984, when the export ban was imposed (Table 2). Export figures supplied by the Santa Cruz regional wildlife management authority show that from 1980 to 1983 a total of 3928 *P. maximiliani* were exported from Bolivia, indicating that the CITES figures may have under-estimated the true level of trade.

CONSERVATION MEASURES All of the range states are Parties to CITES. The information detailed below is from Fullet et al. (1987).

Argentina Not included in a recent list of species which are considered harmful, effective from 14 March 1986 (CITES Notification to the Parties No. 412, 28 November 1986). Therefore fully protected.

Bolivia All exports of live wildlife have been banned since 1 May 1984.

Brazil All exports of live wildlife have been prohibited since 1967.

Paraguay All exports of wildlife have been prohibited since 1975.

CAPTIVE BREEDING The species is rarely kept as a pet, but breeding has been recorded (Low, 1980a).

Table 1. Minimum net imports of live *P. molinae* reported to CITES.

	1981	1982	1983	1984	1985
Canada	6	109	100	-	-
Germany, F.R.	50	6	-	-	-
Italy	-	-	20	-	-
Netherlands	25	-	-	-	-
South Africa	4	4	2	-	-
USA	464	1436	248	49	-
Unknown	56	-	-	-	-
Total	605	1555	370	49	0

Table 2. Reported countries of origin for exports of live *P. molinae* reported to CITES.

	1981	1982	1983	1984	1985
Bolivia	601	1555	370	49	-
Ecuador	-	4	-	-	-
UK	4 *	-	-	-	-

* = captive-bred

RUFIOUS-TAILED PARROT

Recommended list: 2
[Possible problem]

Tanygnathus heterurus, Salvadori, 1912

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS The species is only known from the type specimen, which was in a collection sent to the Genoa Museum from Sulawesi and New Guinea. There was no information accompanying the specimen.

The recorded trade during 1981-85 totalled 578, all exported by Indonesia. If these were correctly identified, and if *heterurus* is a valid species (now usually regarded as an aberrant of *T. sumatranus*), it could be an extremely rare bird whose population has only recently been discovered and is now being rapidly exploited. Alternatively it has been suggested that the trade in this 'species' actually refers to *T. sumatranus* which is protected in Indonesia. *T. heterurus* is not protected although capture and export are subject to licence.

It is imperative that the true nature of this taxon is resolved as quickly as possible. If it transpires that it might be a valid species then the location and status of all wild populations need to be established.

DISTRIBUTION Unknown, thought to be Sulawesi or nearby islands, Indonesia (Forshaw and Cooper, 1978).

POPULATION Known only from the type specimen, which was included in a collection from Sulawesi and New Guinea sent to the Genoa Museum by Bruijn. There was no information accompanying the specimen (Forshaw and Cooper, 1978). Forshaw (in Forshaw and Cooper, 1978) examined the type specimen and stated that in his opinion it is probably an aberrant form of *Tanygnathus sumatranus*.

HABITAT AND ECOLOGY. Unknown.

THREATS TO SURVIVAL If this is a valid species which has only recently been discovered, it is likely to be rare and any exports may threaten the survival of the remaining population. If the birds recently recorded in trade have been mis-identified, they may have been *T. sumatranus* which has not been traded in large numbers in the past (Low, 1986a) and has recently been fully protected in Indonesia (see below).

INTERNATIONAL TRADE Low (1986a) reported that *Tanygnathus* parrots are not traded often because there is little demand for them. Listed in CITES Appendix II in 1981.

*Tanygnathus heterurus*Table 1. Minimum net imports of live *T. heterurus* reported to CITES.

	1981	1982	1983	1984	1985
Germany, F.R.	25	97	81	30	-
Saudi Arabia	-	-	-	6	-
Singapore	60	-	-	-	-
Switzerland	-	-	4	-	-
UK	-	-	-	25	-
USA	-	137	60	13	40
TOTAL	85	234	145	74	40

Table 2. Reported countries of origin or export for exports of live *T. heterurus* reported to CITES.

	1981	1982	1983	1984	1985
Indonesia	85	234	145	74	40

The average volume of reported trade was 119 birds each year; the total reported during 1981 to 1985 was 578. Trade in this species was recorded by Indonesia (1981-1985), the Federal Republic of Germany (1982-1983) and the United States (1982, 1984 and 1985).

Nilsson (1985) compiled figures detailing United States bird imports between 1980 and 1984 from US Ministry of Agriculture quarantine forms and US Fish and Wildlife Service import forms. The only trade in this species included in these data was the import of 70 birds in 1982. For the same year the US CITES Annual Report recorded the import of 50 birds while the Indonesian report included the export of 137 birds to the United States. Such discrepancies in the trade data may reflect the possible mis-identification of the species.

CONSERVATION MEASURES Not protected in Indonesia, however recent legislation requires permits to be obtained from the Director General of Forest Protection and Nature Conservation (PHPA), in order to legally catch, own, breed, or transport non-protected wildlife species (Decree of the Minister of Forestry No. 66 Kpts-11/1983). Despite increased trade controls in recent years illegal trapping and export of protected species has been reported to continue (Petocz, 1984). Quotas are set for the legal harvest of parrots in Indonesia. No quota has been set for this species (Indonesia CITES MA, 1986). *T. sumatranus* has been fully protected in Indonesia since 1980 under decree of the Minister of Agriculture No. 757/KPTS/Um/12/79.

CAPTIVE BREEDING Low (1986a) stated that *Tanygnathus* parrots are little known in captivity and breeding successes have been few.

OLIVE-HEADED LORIKEET
PERFECT LORIKEET

Recommended list: 3
[No problem]

Trichoglossus euteles (Temminck, 1835)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A monotypic species which is endemic to Indonesia, occurring on Timor and in Nusa Tenggara from Lomblen east to Nila and Babar. It was fairly recently found to be common on Timor but no information on the status of the species on other islands has been discovered. Inhabits primary and secondary forest and savannah woodland.

The recorded trade during 1981-85 ranged from nil in 1981 to 367 in 1982. Most were exported from Indonesia but in 1982 about half the birds were exported by Malaysia. The species is not protected in Indonesia although capture and export are subject to licence.

The present level of trade is unlikely to affect the populations of this species.

DISTRIBUTION Endemic to Indonesia, in Timor and in Nusa Tenggara from Lomblen east to Nila and Babar (Forshaw and Cooper, 1978). White and Bruce (1986) listed it as occurring on Pautar, Lomblen, Alor, Timor, Wetar, Romang, Kisar, Moa, Leti, Damar, Babar, Luang, Teun and Nila.

POPULATION Bruce (in Forshaw and Cooper, 1978) stated that the species was common on Timor. No information is known describing the populations of the other islands on which it occurs.

HABITAT AND ECOLOGY Bruce (in Forshaw and Cooper, 1978) found the species in primary forest, secondary forest and savannah woodland up to about 2300 m in the Ramelan Range, Timor; it was only once encountered below 1000 m. Very little is known about the habits of this species in the wild (Low, 1977).

THREATS TO SURVIVAL No information.

INTERNATIONAL TRADE Low (1977) stated that this species has never really attained any degree of popularity in aviculture. Listed in CITES Appendix II in 1981.

The data in Table 2 can be compared with the numbers reported by the Indonesian Department of Nature Conservation to have been exported from Indonesia: 1981 - 0, 1982 - 212, 1983 - 0, 1984 - 317 (Indonesia CITES MA, 1986). These numbers show reasonable correlation with those reported to CITES for 1981, 1982 and 1984. Of the 53 birds reported in trade by CITES Parties in 1983, only 15 were reported to have been imported directly from Indonesia (by Japan). Indonesia did not report any exports of this species in that year. The volume of reported trade in 1984 of 317 birds is within the quota of 500 set for that year (see below).

Trichoglossus euteles

CONSERVATION MEASURES Not protected, however recent legislation requires permits to be obtained from the Director General of Forest Protection and Nature Conservation (PHPA), in order to legally catch, own, breed or transport non-protected wildlife species (Decree of the Minister of Forestry No. 66 Kpts-11/1983). Trade is monitored by the Directorate General of Forest Protection and Nature Conservation (PHPA), Directorate of Nature Conservation, Subdirectorate of Species Conservation (Bogor) (Petocz, 1984). Annual harvest quotas are set for each species (Milton and Marhadi, 1987). In 1984 the quota for this species was 500 (Anon., 1984a) in 1985 it was 750 (Anon., 1985) and in 1987 it was 60 (Anon., 1987a).

CAPTIVE BREEDING Bred in captivity in small numbers in a number of countries (Low, 1986a).

Table 1. Net imports of live *T. euteles* reported to CITES.

	1981	1982	1983	1984	1985
Belgium	-	12	-	-	-
Denmark	-	-	-	80	-
Germany, F.R.	-	44	-	110	-
Italy	-	30	-	-	-
Japan	-	15	15	-20	-
Malaysia	-	-	-	20	50
Singapore	-	10	-	-	-
Sweden	-	-	-	-	2
Switzerland	-	-	3	10	-
UK	-	6	-	50	-
USA	-	250	35	37	11
TOTAL	0	367	53	327	63

Table 2. Reported countries of origin, or where no origin is given, the exporter of the reported transactions.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>T. euteles</i>					
Indonesia	-	187	53	327	61
Countries without wild populations of <i>T. euteles</i>					
Malaysia	-	180	-	-	-
Netherlands	-	-	-	-	2*

* = captive-bred

YELLOW-AND-GREEN LORIKEET

Recommended list: 3
[No problem]

Trichoglossus flavoviridis Wallace, 1863

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS This species is endemic to Indonesia and is composed of two subspecies, one on the Sula Islands and the other on Sulawesi. In 1980 it was reported to be common and widespread on Sulawesi but no recent information on its status in the Sula Islands has been discovered. Inhabits dense mountain forests.

The recorded trade during 1981-85 ranged from 231 in 1985 to 515 in 1984. Most originated in Indonesia but in 1982 60 were exported by Malaysia. The species is not protected in Indonesia although capture and export are subject to licence.

The present level of trade is unlikely to affect populations of this species.

DISTRIBUTION Sulawesi and Sula Islands, Indonesia (Forshaw and Cooper, 1978).

T. f. flavoviridis Sula Islands (van Bemmell, 1948; White and Bruce, 1986).

T. f. meyeri (Walden). Sulawesi (Watling, 1983; White and Bruce, 1986).

POPULATION Common and widespread on Sulawesi (Watling, 1983). Status on the Sula Islands is unknown.

HABITAT AND ECOLOGY According to Heinrich (in Stresemann, 1940) this Lorikeet's habitat is dense montane forest with an altitudinal range of 500-2000 m. Watling (1983) described it as a true forest species found from the lowlands to upper montane rainforest, nearly always in small noisy flocks; occasionally found in open country especially when the Dadap (*Erythrina* sp.) is flowering.

THREATS TO SURVIVAL Unknown.

INTERNATIONAL TRADE The nominate subspecies is reportedly extremely rare in aviculture and *meyerii* has only been traded in small numbers (Low, 1986a). Listed in CITES Appendix II in 1981.

*Trichoglossus flavoviridis*Table 1. Net imports of live *T. flavoviridis* reported to CITES.

	1981	1982	1983	1984	1985
Belgium	-	8	-	45	-
Denmark	-	-	40	-	-
France	-	48	14	-	-
Germany, F.R.	74	103	82	65	60
Hong Kong	-	-	-	60	-
Italy	-	-	-	45	-
Japan	65	-	15	120	-
Malaysia	-	-	-	70	-
Singapore	80	30	-	-	-
South Africa	-	-	-	10	-
Spain	-	2	-	-	-
Switzerland	-	7	8	10	-
Thailand	-	19	-	-	-
UK	-	-	10	70	20
USA	20	100	70	-	151
TOTAL	239	317	239	515	231

Table 2. Reported countries of origin, or where no origin is given, the exporter of the reported transactions.

	1981	1982	1983	1984	1985
Countries having populations of <i>T. flavoviridis</i>					
Indonesia	239	257	239	515	231
Countries without wild populations of <i>T. flavoviridis</i>					
Malaysia	-	60	-	-	-

The main importers were the Federal Republic of Germany and the United States. The average volume of trade during 1981-85 was 308 birds per year (Table 1). The data in Table 2 can be compared with the numbers reported by the Department of Nature Conservation to have been exported from Indonesia: 1981 - 239, 1982 - 226, 1983 - 192, 1984 - 526 (Indonesia CITES MA, 1986). These figures show reasonable correlation with those reported to CITES in all years. The volume of reported trade in 1984 of 526 birds is well within the quota of 6000 set for that year (see below).

Trichoglossus flavoviridis

CONSERVATION MEASURES Not protected, however recent legislation requires permits to be obtained from the Director General of Forest Protection and Nature Conservation (PHPA), in order to legally catch, own, breed or transport non-protected wildlife species (Decree of the Minister of Forestry No. 66 Kpts-11/1983). Trade is monitored by the Directorate General of Forest Protection and Nature Conservation (PHPA), Directorate of Nature Conservation, Subdirectorate of Species Conservation (Bogor) (Petocz, 1984). Annual harvest quotas are set for each species (Milton and Marhadi, 1987). In 1984 the quota for this species was 6000 (Anon., 1984a, in 1985 it was 5800 (Anon., 1985) and in 1987 it was 300 (Anon., 1987a).

CAPTIVE BREEDING First bred in Denmark in 1959, but very seldom bred since then (Low, 1977).

GOLDIE'S LORIKEET

Recommended list: 2
[Possible problem]

Trichoglossus goldiei (Sharpe, 1882)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A monotypic species occurring in New Guinea from the Weyland Mountains, Irian Jaya, east to south-east Papua New Guinea. It is apparently uncommon to rare throughout its range although it has been recorded in flocks of up to a hundred. Inhabits mountain forest.

The recorded trade ranged from 12 in 1983 to 1173 in 1984. Most originated in Indonesia but in 1982 33 were exported by Hong Kong, originating in Papua New Guinea. The species is not protected in Indonesia, although capture and export are subject to licence. Commercial trade is not permitted from Papua New Guinea.

Given its wide range, the present level of trade is probably not affecting its status in the wild but, if it is locally rare, the source of captured birds requires monitoring. Information on the status of the Irian Jaya population is required.

DISTRIBUTION Central mountain range of New Guinea.

Indonesia Occurs in the central mountains of Irian Jaya from the Weyland Mountains in the west, eastwards across the border into Papua New Guinea (Forshaw and Cooper, 1978; Coates, 1985).

Papua New Guinea Occurs throughout the central mountain range from the mountains in the south-east west across the border into Irian Jaya (Coates, 1985).

POPULATION Rand and Gilliard (1967) found this species to be uncommon, if not rare.

Indonesia No recent information available.

Papua New Guinea Diamond (1972) stated that this is the least common of the mid-montane lorries, in the Eastern Highlands, known from eight scattered localities. Beehler (1978) said it was uncommon to rare in north-east New Guinea. Coates (1985) described it as generally rather scarce, locally common, often rare or absent.

HABITAT AND ECOLOGY. It inhabits mountain forests from about 1000 m to 2000 m (Rand and Gilliard, 1967). Although these authors stated that this was a quiet, non-flocking species, Diamond (1972) reported a noisy flock flying over the Eastern Highlands forest at 2100 m. Forshaw (Forshaw and Cooper, 1978) quoted sightings in 1970 of flocks of up to a hundred birds, in the Western Highlands of Papua New Guinea. Forshaw also recorded that pairs and small parties had been observed, both at sea level and at 2800 m. In his study of the Eastern Highlands, Diamond (1972) stated that in Kyaka territory flocks of up to forty were commonly noted in December and January but the species was only occasionally seen during the rest of the year, implying local migration.

Trichoglossus goldiei

Diamond (1972) said that at Okapa, Eastern Highlands the Lorikeet breeds during the rainy season, as do other lories. Little else seems to be known about breeding.

Food consists of pollen, nectar, flowers, fruits and berries. Feeding flocks appear to be attracted to particular flowering trees. Large flocks have been seen in casuarines in open country, and feeding in flowering eucalypts (Forshaw and Cooper, 1978).

THREATS TO SURVIVAL The most likely threats are habitat removal and international trade but it is not known whether these do threaten the species' survival.

INTERNATIONAL TRADE Table 1 shows the world net imports, reported in the annual reports of CITES Parties. This shows the total in trade to have varied between 2 in 1983 and 1173 in 1984.

The apparently very large increase in exports might be cause for concern. The reported export in 1984 is far in excess of the quota set by Indonesia for that year; however the volume of trade decreased in 1985 to 243 which was within the quota set for that year.

In 1982 the UK reported importing 33 specimens from Hong Kong, origin Papua New Guinea, although this country bans commercial export.

Table 1. Minimum net imports of live *T. goldiei* reported to CITES.

	1981	1982	1983	1984	1985
Canada	-	-	-	-	12
Cayman Islands	-	-	-	-	2
Denmark	-	-	-	80	30
France	-	55	-	-	-
Germany, F.R.	20	30	12	107	40
Hong Kong	50	17	-	-	-
Italy	-	-	-	24	-
Japan	20	20	-	-	40
Malaysia	-	-	-	50	-
Saudi Arabia	-	-	-	4	-
Singapore	60	-	-	-	1
Switzerland	-	-	-	3	-
Thailand	-	-	-	50	-
UK	-	33	-	80	83
USA	-	90	-	775	28
USSR	-	4	-	-	-
TOTAL	150	249	12	1173	243

Trichoglossus goldiei

Table 2. Reported countries of origin or export for exports of live *T. goldiei* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>T. goldiei</i>					
Indonesia	150	232	-	1153 + 7 bodies	243
Papua New Guinea	-	33	-	-	-
Countries without wild populations of <i>T. goldiei</i>					
Belgium	-	9	-	-	-
Germany, F.R.	-	-	-	3*	-
Malaysia	-	8	-	-	-
Singapore	-	-	-	-	19
Sweden	-	-	-	-	12
Switzerland	-	-	6*	-	-
Thailand	-	-	-	20	-
Unknown	-	-	6	1 body	-

* = captive-bred

CONSERVATION MEASURES

Indonesia Quotas are set on exports of this species, amounting to 500 in 1984, 250 in 1985 and 500 in 1987 (Anon., 1984a; Anon., 1985; Anon., 1987a).

Papua New Guinea Exports for commercial purposes are not permitted (Parker, 1981).

CAPTIVE BREEDING Virtually unknown in aviculture before 1977, although it was bred in Chicago in 1950. However within a decade of imports commencing this species had become the most frequently bred and securely established of the small lories (Low, 1986a).

RAINBOW LORIKEET

Recommended list: 2
[Possible problem]

Trichoglossus haematodus (Linné, 1771)

Order PSITTACIFORMES

Family PSITTACIDAE

SUMMARY AND CONCLUSIONS A widespread and variable species comprising 16 to 21 subspecies, and occurring from Bali east through many islands of Indonesia to Irian Jaya; Papua New Guinea (including most associated islands); Solomon Islands; Vanuatu; New Caledonia (including Loyalty Islands); north-east and east Australia. Also apparently introduced and established in small numbers in Hong Kong. The species is generally very common and even abundant in most areas but some subspecies and populations are rare or have become rare. *T. h. rosenbergii* (confined to Biak) was considered to be rare in 1979, and *T. h. mitchellii* (confined to Bali and Lombok) was adjudged very common on Bali in 1930 but was not seen at all in nine months of observations there during 1981/82. *T. h. haematodus*, which is widespread in Maluku east to Irian Jaya, has become rare on Ambon as a result of heavy pressure from trappers. Several other subspecies are confined to single islands and their current status is unknown. The species occurs in a great variety of habitats, perhaps more commonly in disturbed habitats than in forest.

The recorded trade during 1981-85 ranged from 3461 in 1981 to 7738 in 1983. Most originated in Indonesia with very small numbers from Papua New Guinea and Australia. Commercial exports are not permitted in any range country except Indonesia where capture and export are subject to a quota system.

The present level of trade is unlikely to affect the overall status of the species but some local populations may be seriously affected.

DISTRIBUTION From Bali and islands in the Flores Sea, Indonesia, east through Irian Jaya and Papua New Guinea and adjacent islands, to the Solomon Islands, Vanuatu, New Caledonia and Loyalty Islands; also in north-eastern, eastern and south-eastern Australia (Forshaw and Cooper, 1978). Introduced in Hong Kong (Chalmers, 1986). The description of distribution and nomenclature described below is generally based on Forshaw and Cooper (1978), except where otherwise specified. Between 16 and 21 subspecies may be valid.

T. h. haematodus (including subsp. *berauensis* Cain (Cain, 1955; Mees, 1980)

Indonesia On Ambon, Batanta, Buru, Goram, Goram Laut, Kisui, Kur, Manawoka, Mios Num, Misool, Salawati, Seram, Seram Laut, Tayandu (Kur), Tioör, Waigeo and Watubela (and presumably other) islands and western Irian Jaya along the north coast to about Humboldt Bay, and possibly on westernmost Kai islands (Rothschild, 1932; van Bemmelen, 1948; Cain, 1955; Forshaw and Cooper, 1978; White and Bruce, 1986).

Papua New Guinea From Humboldt Bay in the north east to the upper Fly River (Black River) in the south (Coates, 1985).

T. h. mitchellii G.R.Gray

Indonesia On Lombok (White and Bruce, 1986) and Bali (Forshaw and Cooper, 1978).

T. h. forsteni Bonaparte

Indonesia On Sumbawa island (White and Bruce, 1986).

T. h. djampeanus Hartert

Indonesia Doubtfully distinct from *forsteni*; occurs on Tanahjampea, in the Flores Sea (White and Bruce, 1986).

T. h. stresemanni Meise

Indonesia On Kulaotoa, in the Flores Sea (White and Bruce, 1986).

T. h. fortis Hartert

Indonesia On Sumba Island (White and Bruce, 1986).

T. h. weberi Büttikofer

Indonesia On Flores (White and Bruce, 1986).

T. h. capistratus (Bechstein)

Indonesia On Timor (White and Bruce, 1986).

T. h. flavotectus Hellmayr

Indonesia Wetar and Romang, near Timor (White and Bruce, 1986).

T. h. rosenbergii Schlegel

Indonesia On Korrido (Rothschild and Hartert, 1901) and on Biak, Irian Jaya.

T. h. intermedius Rothschild and Hartert (doubtfully separable from *haematodus*)

Indonesia Possibly found in north-eastern Irian Jaya, near the Sepik River.

Papua New Guinea Occurs in northern and east-central Papua, from the Torricelli Mountains and Sepik River east to Astrolabe Bay in the north and the Waghi Valley and Karimui-upper Purari River area in the south (Coates, 1985); also on Manam Island (Rand and Gilliard, 1967).

T. h. micropteryx Stresemann (may not be separable from *massena*)

Papua New Guinea Eastern New Guinea, westward to Huon Peninsula in the north and to Lake Kutubu in the south; also occurring on Misima Island in the Louisiade Archipelago, Manam and Bagabag (Coates, 1985).

T. h. nigrogularis G.R.Gray

Indonesia Aru and eastern Kai islands (van Bemmelen, 1948; White and Bruce, 1986); Rothschild and Hartert (1901) listed it as also occurring in southern New Guinea.

Papua New Guinea Rothschild and Hartert (1901) stated that the species was found in southern New Guinea, along the lower Fly River. There is some dispute about the distinctness of the race in this range, which has been designated *caeruleiceps* d'Alberty and Salvadori. Forshaw and Cooper (1978) record the range of *caeruleiceps* as southern Papua between the lower Fly River and the Princess Marianne Straits, but suggest, in common with Cain (1955) that it is probably not separable from *nigrogularis*. Other authors, including Mees (1982) believe there is a clear difference. Coates (1985) recorded *caeruleiceps* from the southern Trans-Fly region and lower Fly River.

Trichoglossus haematodus

T. h. brooki Ogilvie-Grant

Indonesia Known only from the type specimens, two cage birds said to have come from Pulo Swangi, off the south coast of Tranggan Island, Aru Islands (Cain, 1955; Forshaw and Cooper, 1978).

T. h. massena Bonaparte

Papua New Guinea Karkar Island and throughout the Bismarck Archipelago except New Hanover (Crown, Long, Tolokiwa, Umboi, Malai, Sakar, New Britain, Bali, Witu, Lolobau, Duke of York, New Ireland, Tabar, Lihir, Tanga, Feni, Mussau, Emira) (Coates, 1985).

Solomon Islands Throughout the Solomon Islands (Forshaw and Cooper, 1978).

Vanuatu Throughout Vanuatu, including the Banks Islands (Mayr, 1945).

T. h. flavicans Cabanis and Reichenow

Papua New Guinea New Hanover (Bismarck Archipelago) and Admiralty and Echiquier Islands (Rothschild and Hartert, 1901; Coates, 1985). Within the Admiralty Islands, Coates (1985) recorded it from Manus, Lou, San Miguel, Pak, Rambutyo and Nauna.

T. h. nesophilus Neumann

Papua New Guinea Ninigo and Hermit island Groups, west of Manus Island (Coates, 1985).

T. h. deplanchii Verreaux and Des Murs

New Caledonia Found on New Caledonia and the Loyalty Islands.

T. h. moluccanus (Gmelin)

Australia On islands in the Torres Strait and eastern Australia, from Cape York Peninsula south to Tasmania and west to Kangaroo Island and Eyre Peninsula. A breeding population in Perth (west coast) has built up from specimens that escaped in the late 1960s (Blakers et al., 1984). In Torres Straits it breeds on the larger islands and visits the smaller ones when plants are flowering (Draffan et al., 1983). There were occasional records of occurrence on Tasmania last century (Green, 1977) but there do not appear to be any recent records.

T. h. rubritorquis Vigors and Horsfield

Australia In northern Australia from the Kimberly division of Western Australia to the Gulf of Carpentaria, Queensland. Pizzey (in Pizzey and Doyle, 1980) regards this as a separate species.

POPULATION No estimates of the total population size are available.

Australia Abundant and predominately sedentary in the northern parts of its range, less so in southerly latitudes where the species is principally nomadic (Australia CITES MA, 1986). Pizzey (in Pizzey and Doyle, 1980) described the species as fairly common to very common and abundant. However, at any site numbers may vary erratically and the species may be completely absent in some years (Blakers et al., 1984). Less common in the south (Forshaw and Cooper, 1978).

Trichoglossus haematodus

Hong Kong Since 1976, the species has been recorded throughout the year, with small flocks of up to eleven regularly seen along the south coast of Hong Kong (Chalmers, 1986).

Indonesia In 1914 this lory was common near the coast on Seram, but only found in ones and twos inland. Similarly, a 1930 report stated that there were large flocks in coastal coconut plantations on Buru, but it was not found inland or above 350 m (Forshaw and Cooper, 1978). Recently, on Seram, Buru, Kai and the Aru Islands, the species was reported to be locally very common, but on Ambon it has become rare as a result of heavy pressure from trappers (Smiet, 1985). It was also described as common on Seram by Bowler (1988). On Bali, a 1930 report described it as very common at 1200 m (Forshaw and Cooper, 1978) but Ash (1984) found that during a one-month visit in 1981 and eight months' residence in 1982, none was seen. On Timor, in 1974, it was found to be fairly common in lowlands below 500 m, mainly near the coast (Forshaw and Cooper, 1978). On Biak, subsp. *rosenbergii* is said to be rare (Schodde, 1979). On Wamar it was found abundant in July–September 1985 (Milton and Marhadi, 1987). On New Guinea, Rand and Gilliard (1967) described this as the commonest and most widespread of the New Guinea lorries; in west New Guinea, massed evening flocks of thousands of birds have been reported. Bishop (1984) found it was abundant or locally common in the reserves of south-east Irian Jaya.

New Caledonia Hannecart and Letocart (1980) reported it to be fairly common on the mainland and islands. Delacour (1966, see Forshaw and Cooper, 1978) had called it abundant in the forest there.

Papua New Guinea Rand and Gilliard (1967) reported this to be the commonest and most widespread of the New Guinea lorries. In the Eastern Highlands, Diamond (1972) also found it to be the most widespread and conspicuous. Beehler (1978) said it was abundant in the uplands of north-eastern New Guinea and perhaps more common in disturbed habitats than in forest. In south-eastern Papua, Gilliard (1950) said it was very common in large flocks, in isolated trees throughout the open grasslands, and Forshaw and Cooper (1978) said it was a common resident in the Port Moresby district in 1970. On the Ningo and Hermit Islands, in the Bismarck Archipelago, it was commonly distributed in 1970, even on very small atolls (Bell, *in litt.*, quoted in Forshaw and Cooper, 1978). More recently, Coates (1985) stated that it is common in most areas of its distribution but that it may be locally scarce in the upper levels of its altitudinal range.

Solomon Islands Mayr (1945) and Sibley (1951) said this species was common throughout the Solomon Islands in coastal and lowland areas. No more recent information.

Vanuatu Mayr (1945) said it occurred throughout the New Hebrides (= Vanuatu) and Banks Islands. No more recent information.

HABITAT AND ECOLOGY. Inhabits a variety of habitats, especially in lowlands and coastal areas.

In Australia it is also found in mountainous areas of the north-east. In that country it inhabits all types of timbered country, rainforest, eucalypt forests and woodlands, swamp woodlands and occasionally mangroves, and is often seen in city parks and gardens (Forshaw and Cooper, 1978; Pizzey and Doyle, 1980).

The species appears to occur in the same range of habitats throughout Indonesia. Forshaw and Cooper (1978) for example, cite: on Timor, common in lowlands below 500 m, with flocks seen feeding in *Eucalyptus* woodland; on

Trichoglossus haematodus

Bali, common at 1200 m in *Erythrina* trees around Lake Bratan; on Sumbawa, mainly in open rainforest up to 1000 m; on Flores, in rainforest and *Casuarina* stands, up to 1400 m; on Buru, in coastal coconut plantations. In New Guinea, the species lives in savannah and in forest, especially at forest edges, also in clearings by waterways, and in areas of secondary growth (Rand and Gilliard, 1967).

In the Eastern Highlands of Papua New Guinea, Diamond (1972) found this lory up to 1500 m in primary forest and up to 2000 m in *Casuarina* groves and trees of open country. In the uplands of north-eastern Papua, Beehler (1978) said the species was perhaps more common in disturbed habitats than in forest, occurring from sea level up to 1750 m. Rand and Gilliard (1967) found, in New Guinea, that its presence in an area depended on the flowering of trees; on the middle Fly River, for instance, no specimens were seen until a certain yellow-flowered tree came into bloom.

In the Solomon Islands it is found in flowering coconut palms and in New Caledonia is a visitor to coffee plantations when the *Erythrina* shade trees are flowering (Forshaw and Cooper, 1978).

This species is especially a flower feeder and takes fruit less frequently (Rand and Gilliard, 1967; Diamond, 1972). The diet includes pollen, insects, fruits, berries, seeds and leaf buds, as well as insects and their larvae. Apart from those trees named above, the Rainbow Lorikeet is also recorded as feeding on blossoms of Scarlet Bottle-brush (Myrtaceae), in the Solomon Islands, on *Pittosporum ramiflorum*, on fruits of *Ficus* and seeds of *Cassia* sp. and *Casuarina equisetifolia* in Papua. In Australia they feed mainly on pollen and nectar from blossoms of *Eucalyptus*, *Melaleuca*, *Banksia*, and other trees and shrubs. They also cause some damage taking fruits in apple and pear orchards, and attack maize and sorghum crops to feed on the unripe grain. Near Port Moresby, Papua, they have also been seen feeding on pupae of the Poinciana Moth (*Pericyma cruegeri*) (Forshaw and Cooper, 1978).

The wide latitudinal range of the Rainbow Lorikeet accounts for considerable variability in its breeding period. Forshaw (Forshaw and Cooper, 1978) says that, on Seram, a nestling has been seen in mid-December; on Flores nesting has been recorded in most months between February and August. In southern New Guinea copulation has been observed in early January and an occupied nest in New Georgia, Solomon Islands, has been found in November. Breeding in Australia is generally from August to January, but has been recorded in April/May in the north. Two eggs, rarely three, are laid in a tree hollow or hole, frequently high up. However, captive specimens of *T. h. moluccanus* are reported to have nested on the ground, in burrows which they scraped out.

THREATS TO SURVIVAL

Australia Although protected throughout Australia, considerable numbers are shot in Queensland due to alleged crop damage and in South Australia limited numbers are permitted to be destroyed (Australia CITES MA, 1986).

Indonesia On Ambon, trapping has led to the species becoming rare. On Bali, the main threats to birds are habitat alteration and persecution by man, especially in the more populated eastern half of the island (Ash, 1984). In northern Irian Jaya, Diamond (1979) stated that the bird trade was the major threat.

Elsewhere, it seems probable that habitat destruction and trade could be threats but this has not been substantiated by the literature.

Trichoglossus haematodus

INTERNATIONAL TRADE The nominate race has been regularly available in international trade since about 1980 (Low, 1986a). CITES data indicate that there was a large international trade in Rainbow Lorikeets during the period 1981-85 (see Table 1), ranging between 3461 birds in 1981 and a maximum of 7738 in 1983. Nearly all of this has emanated from Indonesia (Table 2). The Indonesian Government has supplied recent export data indicating the following exports of this species: 2818 in 1981, 3619 in 1982, 4353 in 1983, 5587 in 1984 (Indonesia CITES MA, 1986), all from Timor, Bali, Maluku and Irian Jaya. These figures do not correlate particularly well with the CITES annual report data, even those from Indonesia. They do reveal an annual increase in the exports from Indonesia which, if it continues could give cause for concern. However, no clear trend is apparent from the CITES annual report data.

Table 1. Minimum net imports of live *T. haematodus* reported to CITES.

	1981	1982	1983	1984	1985
Australia	-	-	14	-	-
Austria	-	25	-	-	20
Bahamas	-	-	-	2	-
Belgium	-	-	-	120	-
Brazil	-	-	-	2	-
Canada	-	20	-	52	64
China	-	1130	-	-	-
Colombia	-	4	-	-	-
Denmark	-	-	94	30	-
Ecuador	-	-	-	-	7
Egypt	-	-	-	8	6
France	100	260	322	221	126
Germany, F.R.	960	251	359	226	105
Hong Kong	145	215	294	210	147
Italy	130	27	150	200	-
Japan	719	-	745	736	297
Korea, Rep.	-	-	-	5	-
Kuwait	250	50	60	-	-
Malaysia	-	-	570	1470	150
Malta	-	2	-	-	-
New Zealand	6	-	-	-	8
Netherlands	-	-	-	10	13
Neth. Antilles	-	-	-	-	6
Portugal	-	-	14	-	-
Saudi Arabia	-	-	-	6	-
Singapore	570	573	130	-	-
South Africa	-	7	16	6	-
Spain	-	-	50	-	5
Sweden	-	130	-	30	-
Switzerland	-	18	4	-	-
Taiwan	295	-	1814	1684	805
Thailand	-	72	190	270	-
UAE	-	-	-	-	2
UK	25	48	310	150	49
USA	261	769	2602	1550	1654
USSR	-	-	-	1	-
TOTAL	3461	3601	7738	6988	3464

Trichoglossus haematodus

Table 2. Reported countries of origin or export of live *T. haematodus* reported to CITES.

	1981	1982	1983	1984	1985
Countries having or possibly having populations of <i>T. haematodus</i>					
Australia	6	4	-	-	8*
Indonesia	3424	3429	7496	6860	3430
Papua New Guinea	1	40	-	-	-
Countries without wild populations of <i>T. haematodus</i>					
Belgium	9	77	225	8*	-
German D.R.	-	-	-	1*	-
Hong Kong	-	25	-	-	-
India	-	-	-	1	-
Japan	-	10	-	-	-
Malaysia	-	80	-	-	-
Netherlands	-	-	-	4*	-
New Zealand	20	10	-	-	-
Norway	-	-	-	-	2*
Philippines	-	-	1	-	-
Singapore	-	105	-	30	142
Sweden	-	-	-	-	46
Tanzania	-	-	-	35	-
USA	1	2	-	-	-
Zimbabwe	-	-	16*	-	-
Unknown	-	6	-	-	1

* = captive-bred

Of the, over 25 000, birds traded over the four-year period 1981-1985, according to CITES annual reports, less than 100 (0.5%) were recorded as having been captive-bred. The principal consistent destinations of exported birds over this period were USA (accounting for 26%), Japan and F.R. Germany.

CONSERVATION MEASURES

Australia Under the Wildlife Protection (Regulation of Exports and Imports) Act 1982, permits for export of native Australian wildlife will only be issued for specimens taken in accordance with an approved management programme (Antram, 1984). There is not known to be such a programme for this species.

Hong Kong All wild birds are fully protected.

Indonesia The capture of this species is controlled by permit and quotas have been set as follows (Anon., 1984a; Anon., 1985; Anon., 1987a):

	<i>T. h. haematodus</i>				<i>T. h. forsteni</i>		
	1984	1985	1987		1984	1985	1987
Irian Jaya	1500	2000	1000	NTT	500	500	500
Sulsel	4750	1000	-	NTB	500	500	500
Sulut	2700	1500	-				
Maluku	7500	5000	2000				
NTT	2675	1500	-				

Trichoglossus haematodus

Attention is drawn to the reduction of the quotas for *T. h. haematodus* between 1984 and 1987. The reason for this is not known but could be speculated to have been over-exploitation or over-estimate of a reasonable quota in 1984.

New Caledonia No information.

Papua New Guinea No commercial export is permitted (Parker, 1981).

Solomon Islands All Psittacidae are protected (IUCN Environmental Law Centre, catalogue of legislation).

Vanuatu No information.

CAPTIVE BREEDING Subspecies *moluccanus* has been bred in captivity more consistently and perhaps in greater numbers than any other member of the Loriinae, and is the only Australian lorikeet that is not uncommon in aviculture. Many other subspecies are more or less commonly bred, including *mitchelli*, *forsteni*, *capistratus*, *flavotectus*, *massena* and *rosenbergii*, though the last-named is not well known in aviculture. Ssp. *rubritorquis* is now rare in aviculture although it was probably the most popular lorikeet in Europe in the early 1900s. *T. h. weberi* has never been common in aviculture, probably because of its relatively dull colouration. Ssp. *deplanchii* is almost unknown or seldom identified in captivity (Low, 1977; Low, 1986a).

ASIAN BARRED OWLETRecommended list: 3
[No problem]*Glaucidium cuculoides* (Vigors, 1831)

Order STRIGIFORMES

Family STRIGIDAE

A widespread and evidently common species found in much of southern Asia from east Pakistan through the lower Himalaya of India, Nepal, and Bhutan, southern China, Bangladesh, Burma, Thailand, Kampuchea, Laos, Viet Nam and part of Indonesia. Reported from a variety of forested and woodland habitats, including second growth, scrub and gardens, in areas of fairly high rainfall (above c. 1.5 m per annum). A montane or sub-montane species in western parts of its range, but found also in lowlands in the east. Markedly diurnal and feeds on large insects and small vertebrates. Clutch size 4; breeding recorded in February (Burma) and April-May (Indian subcontinent and Burma). Nine races are recognized.

Virtually all trade (1251 birds out of a total of 1266) reported to CITES for the period 1980-85 was in bodies, presumably for commercial taxidermy. All such bodies originated in China and were exported to F.R. Germany, though five were subsequently re-exported to other European countries. 15 live birds were reported in trade, 13 of these seized as illegal imports (country of origin unknown) to Hong Kong; the remaining two were imports to Canada (again origin unknown). The number in trade annually has declined from 652 in 1982 to 0 in 1985. Protected in Bangladesh, Hong Kong, India and Thailand.

In view of its extensive range and reported abundance, this species is highly unlikely to be threatened by trade at the levels recorded by CITES.

DISTRIBUTION Eastern Pakistan eastwards through the Himalayan region, much of the Indochinese subregion to southern China, Hainan, Java and Bali (Peters, 1940).

Ripley (1948) recognizes nine races: *cuculoides*, *austerum*, *rufescens*, *bruegeli*, *deignani*, *delacouri*, *whiteleyi*, *persimile* and *castanopterum*. Mees (1971) considered *castanopterum* to be a separate, monotypic species. He has pointed out that the name *castanopterum* Horsfield, 1821 has priority over *cuculoides* Vigors, 1831; thus if the Javanese form is treated as conspecific with *cuculoides*, the specific name of both will be *castanopterum*.

The Sri Lankan *castanonotum*, considered by Peters (1940) to be a subspecies of *G. cuculoides*, is now referred to *G. radiatum*. This last taxon was considered by Ripley (1948) to form a super-species with *G. cuculoides*; however the two species appear to be syntopic in parts of Nepal (see Habitat and Ecology).

Bangladesh (*rufescens*) Recorded from hills in Sylhet and Chittagong (Ali and Ripley, 1984; Ripley, 1982).

Bhutan (*austerum*?) Collected in 1966-68, the subspecies involved is uncertain (Abdulali, 1972).

Burma (*rufescens*, *bruegeli*, *austerum*, *whiteleyi*) Reported by Smythies (1953) as resident throughout Burma (including Tenasserim), in the better wooded parts of the plains and foothills, generally up to 4000 ft, but ascending locally (though not in the north) to around 7000 ft.

Glaucidium cuculoides

China (*whiteleyi*, *rufescens*, *persimile*, *austerum*, *bruegeli*) Occurs in most of China south of 35°N, west to south Shaanxi, southern Sichuan, Yunnan and extreme south-east Xizang Zizhiqu (Tibet); also on Hainan (Meyer de Schaunsee, 1984). *G.c. whiteleyi* occurs in the provinces south of the Yangtze River, as far west as Chamdu; *G.c. rufescens* is found along the Nan-Ting Ho valley on the Burmese border; *G.c. persimile* is confined to Hainan Island (Zheng and Hsien, 1967). *G.c. austerum* has recently been found in Xizang (Zheng et al., 1983); *G.c. fulvescens* = *bruegeli* is recorded from Yunnan (Peng et al., 1979).

Hong Kong (*whiteleyi*) Resident in both Hong Kong Island and the New Territories (Chalmers, 1986).

India (*cuculoides*, *austerum*, *rufescens*) Found throughout the outer Himalayan region from the foothills up to c. 2100 m, locally to 2700 m, in Kashmir, Himachal Pradesh, Garhwal, and Kumaon, and through most of north-east India (Sikkim, Arunachal Pradesh, Nagaland, Assam, Manipur, Mizoram, Tripura, Meghalaya) (Ali and Ripley, 1984; Ripley, 1982).

Indonesia (*castanopterum*) Recorded from the islands of Java and Bali (Mees, 1971; Ripley 1948).

Kampuchea (*bruegeli*, *deignani*, *rufescens*) Delacour (1929) recorded *rufescens* at Angkor and Tay-Ninh.

Laos (*whiteleyi*, *delacouri*) Bangs and van Tyne (1931) recorded *rufescens* from Muong Yo, Boun Tai and Vientiane. Apparently is, or was, widespread (Ripley, 1948).

Nepal (*cuculoides*) Widespread, occurring mainly between 245 m and 2440 m (Inskipp and Inskipp, 1985).

Pakistan (*cuculoides*) Recorded from the region of Murree, in extreme northern Punjab, east to the border with Kashmir (Ali and Ripley, 1984).

Thailand (*rufescens*, *bruegeli*, *deignani*) Reported as present throughout, with the exception of the peninsular region south of Chumphon (Deignan, 1963).

Viet Nam (*whiteleyi*, *delacouri*, *deignani*) Bangs and van Tyne (1931) recorded it from Tonkin. Apparently is, or was, widespread (Ripley, 1948; Vo Quy, 1975).

POPULATION

Bangladesh No information.

Bhutan No information.

Burma Smythies (1953) recorded it as common throughout in suitable habitat.

China Most commonly seen in the south of China (Zheng and Hsien, 1967).

Hong Kong Resident in small numbers (Chalmers, 1986).

India Nominat *cuculoides* described by Ali and Ripley (1984) as common.

Indonesia Delacour (1947) reported it to be very common.

Kampuchea No information.

Glaucidium cuculoides

Laos Engelbach (1932) found it to be very common.

Nepal Described in 1985 as a common resident (Inskipp and Inskipp, 1985).

Pakistan No information.

Thailand Considered a very common resident (Lekagul and Cronin, 1974).

Viet Nam Described in Wildash (1968) as common throughout south Viet Nam.

HABITAT AND ECOLOGY. Recorded in a wide variety of forested and wooded habitats, both coniferous and broadleaved, including tropical evergreen forests, open forests, second growth, scrub and gardens (Delacour, 1947; Meyer de Schauensee, 1984; Ripley, 1948). Ripley (1948) noted that it appeared to be confined to areas with an annual rainfall of more than 60 in. and Smythies (1953) stated that, in Burma, it was absent from the semi-desert dry zone country. In western parts of its range *G. cuculoides* is largely a montane or submontane species while in eastern parts (roughly from Bangladesh eastwards) it also occupies lowland areas. Ripley (1948) considered this to be owing to exclusion by *G. radiatum*, a lowland species in the Indian subcontinent, whose range ceases in the region of Bengal and Arakan. In Nepal, however, the altitudinal ranges of the two overlap between 160 m and 915 m, with both species being abundant, and breeding, in the same forests (Inskipp and Inskipp, 1985). Believed to be a seasonal altitudinal migrant, at least in the Himalayan region (Ali and Ripley, 1984). Largely diurnal, often perching and hunting in sunlight and feeding on a variety of large insects (beetles, grasshoppers, cicadas), birds, lizards and small mammals (Meyer de Schauensee, 1984; Ripley, 1948; Smythies, 1953). Breeding records in April-May in the Indian region and in northern Tenasserim, and in February near Rangoon (Burma) (Ali and Ripley, 1984; Smythies, 1953). Clutch size normally 4, laid in an unlined natural hollow or a 'disused or forcibly appropriated barbet or woodpecker hole' (Ali and Ripley, 1984; Smythies, 1953); incubation period unknown.

THREATS TO SURVIVAL *G. cuculoides* appears to be common in much of its range. No specific threats have been identified, although it is presumably susceptible to the effects of large-scale deforestation. It can, however, evidently survive in secondary or modified habitats and there are no indications that the species is in any way threatened at present.

INTERNATIONAL TRADE All information on trade in *G. cuculoides* is derived from annual reports of parties to CITES.

Table 1. Apparent minimum net imports of *Glaucidium cuculoides* reported to CITES, 1980-1985 (Bodies unless otherwise stated; li = live).

	1980	1981	1982	1983	1984	1985
Austria	-	-	-	2	-	-
Canada	-	-	2 li	-	-	-
Germany, F.R.	-	500	650	96	-	-
Hong Kong	-	13 li	-	-	-	-
Switzerland	-	-	-	2	1	-
Total	0	500 13 li	650 2 li	100	1	0

Glaucidium cuculoides

Table 2. Reported countries of origin (or exporting country if no original source reported) and quantities of transactions in *Glaucidium cuculoides* reported to CITES, 1980-85.

	1980	1981	1982	1983	1984	1985
China	-	500	650	100	1	-
Unknown	-	13 li	2 li	-	-	-

Virtually all (99%) trade was in bodies, presumably for taxidermy (all were classified as commercial, not scientific, specimens) and amounted to 1266 birds for the period 1980-85; all trade in bodies originated in China and involved the F.R. Germany as importing country (though five of the total were re-exported to Austria, Canada, or Switzerland).

Trade in live animals appears negligible; of the fifteen recorded in 1980-85, thirteen were seized as illegal imports to Hong Kong, country of origin unknown, and two were exports from F.R. Germany to Canada, country of origin again unknown.

Declared trade has shown a marked decline from 1982 (652 in trade) to 1984 (0 in trade). Whether this represents a long-term trend is unknown.

G. cuculoides is apparently common in much of its range and is widespread in China, the origin of most specimens in trade; it is very unlikely that the level of trade recorded by CITES represents any threat to the species.

CONSERVATION MEASURES The species may be expected to occur in several protected areas within its range.

Bangladesh Totally protected under the Wildlife Preservation Act, 1973.

Bhutan No information.

Burma Not protected under the Wildlife Preservation Act, 1936.

China Not protected.

Hong Kong Protected (UK, Hong Kong CITES MA, 1987).

India Export is prohibited under the Exports (Control) Order, 1977.

Indonesia Not protected.

Kampuchea No information.

Laos No current information.

Thailand All Strigidae are protected under the Wild Animals Reservation and Protection Act BE 2503, 1960, which prohibits killing, although they may be captured live (Jintanugool et al., 1982).

Viet Nam No current information.

CAPTIVE BREEDING No information.

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