

Status of Macaws in Aviculture

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If current trends prevail, the 1990s will be turning more to the decade of the environment. As aviculturists, our contribution should be obvious. Throughout Central and South America, deforestation and trapping has put a tremendous strain on wild populations of macaws. This is compounded by a reported lower productive rate in the wild which could hinder rapid recovery if pressures are relieved. This is especially evident with the larger blue macaws such as the Hyacinth, Lear's, Spix, and Glaucous. The survival of the last three may rest in the hands of aviculturists. Unfortunately, with the exception of four Lear's, these species are not known in the U.S. This does not dilute the responsibility we American aviculturists have to assure the survival of the rest of the macaws. In the not so distant past, breeding of macaws was limited. Today with improved breeding, incubation, and handfeeding techniques, production of macaws has increased greatly. Hopefully, with new advances in research and avicultural techniques, the future may be brighter for the survival of these species in captivity. The following information was put together using personal experiences and data from TRAFFIC, USA.

Hyacinth Macaw

(*Anodorhynchus hyacinthinus*)

The Hyacinth Macaw is the largest and most spectacular of the macaws. In the wild, it is found almost exclusively in Brazil with a small population found in the northeast corner of the Bolivian Pantanal. In the early 1980s, Hyacinths were exported in small numbers from Bolivia. An estimated 650 birds were imported into

the United States between 1982 and 1988. Bolivia stopped exportation in 1984. In 1987 the Hyacinth was listed on Appendix I of CITES (Congress on International Trade in Endangered Species of wild fauna and flora). Despite this protection as well as local protection in Bolivia and Brazil, an extensive illegal trade still exists. The bird's curious nature makes it easy prey for poachers.

In aviculture, the Hyacinth is breeding in small numbers. Due to their high expense and low numbers in captivity, there are probably not very many pairs set up for breeding. The reason for its low production in captivity is unclear. It has been reported that the species also has a low reproductive rate in the wild with few productive pairs and those pairs rarely fledging more than one chick annually. It has been proposed that long lived species generally have lower reproductive rates. This may have some bearing in this case. It should be noted that we have heard of some pairs in captivity producing 15 chicks in one year. This is the exception rather than the rule. These same 15 in the wild could easily be equivalent to the total life time production of a successful pair. We have seen in past seasons that they seem to have almost a two year cycle where one year a pair breeds well and fails to lay the next year. They are the only macaw that seems to have a craving for coconuts. Robert L. Wilson of the Metropolitan Boston Zoo has established a studbook for Hyacinths.

Scarlet Macaw

(*Ara macao*)

The Scarlet Macaw is, in our opinion, the most spectacularly colored of

all the macaws. This coloration has helped in the demise of the species. Not only is it coveted for its feathers by natives but also by the local pet trade. There are two recognized populations of Scarlets, the yellow-winged or Central American population and the South American population which has more green and less yellow in the wings. Most of the Scarlets which came into the U.S. prior to 1980 originated in Central America and Colombia. In the early 1980's, Bolivia exported large numbers of them until trade ceased in 1984. Also in 1984, Guyana began exportation until 1985. During the first half of the 1980's, approximately 3,000 Scarlets were imported into the U.S. In 1985, the Scarlet was listed on Appendix I of CITES. The existing legal trade in wild caught Scarlets is between Suriname and Switzerland, which both held reservations to the listing.

In aviculture, the Scarlets are one of the most productive of the macaws. In some instances they are too productive to the point that they will probably hybridize with any other species of large macaw.

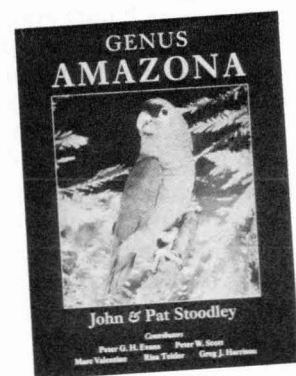
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Blue and Gold Macaw (*Ara ararauna*)

Blue and Gold Macaws are quite possibly the most popular species of macaw. Their coloration, personality, and breeding potential make them very desirable for both the pet and avicultural market. Blue and Golds are still listed on Appendix II. Wild caught birds are exported under a quota system from Guyana and Suriname. Guyana's quota for the 1990 season is 2,000 birds. Suriname exports only a couple hundred a year. Between 1982 and 1988, over 20,000 Blue and Golds were imported into the U.S. from several Latin American countries. However, the two main countries of export were Bolivia and Guyana.

It would seem that with so many birds coming into the country, a large number of Blue and Golds would be set up for breeding. Blue and Golds are very productive in captivity and there is a large demand for their babies. It is not uncommon to have pairs of Blue and Golds have up to four or five clutches in a year. In a hypothetical model, let's speculate that half of the 20,000 imported Blue and Golds are still alive and half of these were set up for breeding. If half of these pairs were producing, we would have approximately 2,500 breeding pairs in the U.S.. If these 2,500 pairs produced an average of four chicks per pair, 10,000 chicks could be produced annually. We wonder if this is happening. Perhaps the TRAFFIC, USA captive breeding survey will answer such questions.

One particular note we would like to add is that, generally speaking, in captivity Blue and Golds and Scarlets seem to have different breeding seasons. With large breeding collections of both, you generally see one species breed better in different seasons or years. We almost never see both species breed well at the same time. They seem to be influenced differently by weather.

Green-winged Macaw (*Ara chloroptera*)

Green-wing Macaws are sometimes confused with the Scarlet Macaws. Green-wings are easily distinguished by larger head and beak size, the presence of facial feather lines, and lack of any yellow on the wings. Wild caught Green-wings, like Blue and Golds, are still being traded internationally. Guyana's quota for the 1990 season is 1,500 birds. This is the only

country trading this species in substantial numbers. One exporter in Guyana, however, claims that there are more Green-wings in the wild than Blue and Golds. Almost 10,000 Green-wings were imported between 1982 and 1988.

Green-wings in aviculture can be described as frustrating at best. Although many pairs are set up for breeding, the percentage of success as compared to some of the other large macaws is depressingly low. It should be noted that every year more and more pairs start to breed. This may reflect a much longer period of time for adaptation to captivity. In many cases, Green-wings have not been established as long as Scarlets and Blue and Golds. We do hear from breeders who buy a male from one person, a female from another, put them together and 30 days later have fertile eggs. The pairs that are breeding are generally productive and make good parents. Over the last few years, the number of Green-wings set up for breeding has increased dramatically. So, hopefully, we'll be seeing more domestic Green-wings around in the near future.

Military Macaw (*Ara militaris*)

Two distinct populations of Military Macaws are represented in aviculture in the U.S., the Mexican Military and the Bolivian Military which is characterized by the rust colored throat patch. The Bolivian Military was imported in very low numbers in the early 1980s, approximately 200 to 300 birds. The Mexican Military has not been imported legally from Mexico since 1982, however, many are being smuggled. In 1987, the Military was listed on Appendix I of CITES. There were roughly 300 to 400 individuals of both populations imported between 1982 and 1989. It's interesting to note that low numbers of most species were still imported after Appendix I listing.

What the Military lacks in color it more than makes up for in personality. The species as a whole breeds well in captivity. Although it seems that there are limited numbers in captivity, there appears to be little demand for them. The captive breeding of the Military is probably on an equal par with the Blue and Gold or Scarlet. Hopefully, the lack of demand for the Military will not result in its disappearance from U.S. aviculture.

Buffon's Macaw (*Ara ambigua*)

The Buffon's or Great Green Macaw is often mistaken for the Military Macaw. Simple ways to differentiate are 1) color (the Buffon's is a lighter shade of green), 2) the Buffon's is noticeably larger with a much larger head, and 3) the tails are different. The outside of the Buffon's tail is a reddish-orange while the Military is more of a burgundy color. With the exception of a small shipment of Buffon's from Nicaragua in 1985, the Buffon's has not been commercially imported in several years. In the late 1970s, they were imported from Guatemala. Buffon's macaws were listed on Appendix I in 1985.

Buffon's have made steady inroads in aviculture with moderate production with the available pairs. One major problem aviculturists encounter is price versus age. Buffon's are desired primarily by aviculturists, but since most aviculturists want breeding age birds, the high price of juvenile birds detours their sale. Birds such as Buffon's and Hyacinths may not reach sexual maturity until they are five years old. Such birds may be utilized as pets when young and breeding stock after maturity. Hopefully enough dedicated aviculturists will specialize in this species to help assure their survival in captivity.

Caninde Macaw (*Ara glaucogularis*)

Caninde or Blue-throated Macaws were relatively unknown in aviculture until the early 1980s. From 1980 through 1983, only around 120 birds were imported. At the 1983 meeting of CITES, they were listed on Appendix I. The Caninde's range in Bolivia is limited to the state of El Beni in the northern part of the country. Due to the remoteness of El Beni and the elusive nature of the Caninde, a census of the species is difficult. They have never been studied in the wild by a professional biologist. With such a limited gene pool in captivity, it is crucial that all attempts be made to manage this species to maintain genetic diversity. The first imported lots of Canindes contained a disproportionate sex ratio with males predominating. Trappers reported the use of a "supposed" female call bird. When the call bird was changed, the sex ratio changed with an increased percentage of females.

The captive breeding of the Caninde is very limited, with only a

handful of productive pairs. Due to its rarity, however, original imports were obtained by aviculturists rather than sold as pets. The original wild caught birds were primarily adults when imported and are now 8 to 9 years older. If we aviculturists hope to have an impact on saving threatened species, this one is in serious need of help. We are in the process of setting up a stud book for the Caninde. Hopefully this will help maintain genetic diversity of future breeding stock.

Red-fronted Macaw
(*Ara rubrogenys*)

The Red-fronted Macaw, like the Caninde, is also found only in Bolivia. Its range is in a more populated region between the cities of Santa Cruz and Cochabamba. Also like the Caninde it was listed on Appendix I in 1983. The Red-front was imported between 1980 and 1983 and only a couple hundred were imported. Unlike the Caninde, the Red-front seems to have adapted better to captivity with more pairs in production.

Red-fronts appear to breed fairly well in captivity based upon the number of offspring in the market and the drastic drop in price through the years. With the exception of a tendency for plucking, they generally make good breeders and take care of their young. There is already a stud book in existence for the Red-front held by Wendy Turner of Cheyenne Mountain Zoo. The general outlook for the Red-front is good.

Severe Macaw
(*Ara severa*)

Severe Macaws are common in lowland Bolivia, frequenting palm groves. They were imported in large numbers (roughly 5,000) during the early eighties and proved to be quite hardy, however, most were sold in the pet trade and they have not been a popular aviary subject until recently. Although they are still Appendix II, they are only being imported in very low numbers from Suriname. Some pairs are quite prolific in captivity producing multiple clutches. Demand for offspring is primarily among aviculturists but they are well suited for pets.

Yellow-collared Macaw
(*Ara auricollis*)

Bolivia exported the Yellow-collared Macaw in large numbers, 5,500 from 1982 to 1984. A few hundred were imported from Argentina in 1989. This species was also

distributed primarily as pets in the early 1980s and are now gaining popularity in aviculture. The disproportionate sex ratio (many more males than females) in early imports as well as 1989 imports made pairing of the birds very difficult. Sex ratios of captive bred birds are even to heavy in females. They can be extremely productive in captivity and their size makes them attractive to the aviculturists who don't have room for large macaws. Demand and prices have remained steady for offspring.

Red-bellied Macaw
(*Ara manilata*)

The Red-bellied Macaw has been imported in reasonably large numbers throughout the 1980s. One of the main problems associated with the wild caught birds was the failure to adapt them to a seed diet. Wild birds feed primarily on the fruit of the Etac or Swamp Palm, a species prevalent in swampy areas. This failure to adapt resulted in high mortality when they were initially imported. Eventually, the exporters wised up and preadapted them prior to shipping thus drastically reducing their mortality rate. In quarantine they would eat only peanuts. During the 1980s, over 10,000 Red-bellied Macaws were imported. The depressing note about this species is that their captive breeding is almost nonexistent and their pet potential is poor. Aviculture success may be limited until a suitable captive diet is found.

Hahn's Macaw
(*Ara nobilis nobilis*)

Noble's Macaw
(*Ara nobilis cumanensis*)

This species of macaws is the smallest of the macaws. In U.S. aviculture, this species is represented by two subspecies. The Hahn's is the smaller of the two and both the maxilla (upper beak) and mandible (lower beak) are black. The Noble's Macaw is slightly larger with a horn-colored maxilla. The Noble's is found in the southcentral part of South America. Approximately 2,000 individuals were imported from Bolivia during the early 1980s. The Hahn's Macaw is presently being imported from Guyana with a quota of 1,000 a year. Both sub-species are very prolific in captivity and the domestic young are usually readily available. Many aviculturists have bred this species to second and third generations in a short number of years.

Illiger's Macaw
(*Ara maracana*)

The Illiger's Macaw is one of the rarest of the miniature macaws in aviculture. They were imported into the U.S. during the late 1970s in very small numbers. At the CITES meeting in 1989, they were listed on Appendix I. This listing really had no effect on the legal trade of wild caught birds since it has been almost a decade since they were last imported. Many people argued that the listing would only increase the value of the bird and thus act as an incentive for increased smuggling. The Illiger's is being bred in captivity with very promising results. Aviculturists should take every precaution against inbreeding. This species in captivity also runs very high in males.

Lear's Macaw
(*Anodorhynchus leari*)

The Lear's Macaw is represented by four individuals in the U.S. Two male birds were imported by Parrot Jungle and Gardens (Miami) in 1952, in a group of Hyacinths. Due to advanced age they are probably useless as breeders. A cooperative breeding effort between Busch Gardens (Tampa) and Parrot Jungle produced two surviving captive bred birds, a male and a female. They are now approaching breeding age. It is obvious that aviculturists in the U.S. cannot do anything to save this species. Hopefully international movement to promote their breeding in captivity can be organized before they are extirpated in the wild.

The other three species are not represented in aviculture in the U.S. They are the Blue-headed Macaw (*Ara couloni*), the Spix Macaw *Cyanopsitta spixii*, and the Glaucous Macaw (*Anodorhynchus glaucus*) if it is not already extinct. Of course, we all hear stories of a pair of this in California or Louisiana or Florida. These stories, even if true, would have little impact on the survival of that species as a whole. Hopefully, aviculturists in the U.S. can contribute to the eventual survival of the world's macaws. The exotic macaws represent a real challenge to aviculture, a challenge that in the past has been met with instinct and experience. Early successes, however, should not delude us into complacency about future directions. The addition of science, genetic management, and cooperation will be needed before the future of these birds will be secure in aviculture. ●