

Can the Parrot Trade Help Save the Rain Forest?

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Deforestation in the neotropics contributes to the decrease of many species of parrots and macaws. Nest and food trees of these species are cut down; birds are shot as pests by farmers; and others are robbed from nests made accessible by new roads. At the same time, there is an ever-increasing desire for cage birds. Many countries with parrot populations have laws that regulate such trade but often lack the personnel or basic knowledge to enforce them. Treaties such as CITES are designed to control international trade, but often are impotent against "re-exportation," the smuggling of birds into a country with weak laws or "flexible" officials and subsequent exportation with legal permits. In response, conservationists in the "developed" world, concerned about the destruction of rain forest and its resources, are enacting laws that restrict the caged-bird trade in their own countries. For example, in New York state, it is illegal to sell any wild-caught birds.

Enthusiasts of cage birds have been understandably upset, as the supply of captive-reared birds is low compared to demand. Given the large amounts of money potentially involved, especially if prices increase per bird, and the miserable salaries of the few wildlife enforcement officers in Latin America, illegal smuggling could continue the exploitation of parrots at levels similar to the previous legal trade.

Ironically, at heart, conservationists and aviculturists have the same long-term goal, both want parrots and the ecosystems that support them to survive. Instead of fighting, I suggest that aviculturists could make a major contribution to the conservation of rain forest and that, in return, conservationists should press for progressive laws that encourage rational and sustained exploitation of parrots, instead of punitive laws that may lead only to even greater damage than they were designed to prevent.

The Vicious Circle

Rain forest at present is the enemy,

both to countries with large populations seeking land, and to the peasant who is allotted his small patch of uncleared forest. Most trees are worth little as lumber, assuming there is a lumber company interested in exploiting them in the first place. The peasant cuts the trees and then burns the debris. The ashes are nutrient-rich so, for a year or two, small crops can be grown. Within a few years, the soil is exhausted and cannot support further crops. If the settler is lucky, he can perhaps sell his land for cattle grazing. He moves on to another plot or stays and works for the rancher. If he is unlucky, he ends up in a city, another unemployed inhabitant of the squatter camps that increasingly ring most Latin American cities, providing the misery that supports guerrilla groups and unrest in many countries.

Meanwhile, frequent fires are set each year in the farmers' abandoned plots to encourage grass for cattle. The fires nibble at the surrounding forest, further reducing its area. If the area is hilly and the range overstocked, cattle soon cut bare-earth paths in the grass and erosion begins. If the area is a watershed for a city, the lack of a forest leads to quicker rain runoff and less retention of water. Streams become seasonal, either bone-dry or bursting their banks in devastating floods. They also become silty and rapidly fill dams. Water becomes scarcer in the cities. The plot's former owner finds his family without water.

Wildlife also suffers. The big cats, harpy eagles, tapirs and peccaries are among the first to go, as they require large amounts of forest. Increased hunting by settlers soon clears out the monkeys and the large rodents such as agouti and paca. Nests of macaws and other valuable cage birds are located and robbed, cutting down the nesting trees that cannot be climbed. Sometimes the nestlings survive, sometimes they do not. The damage is the same to the bird populations. A few furtive or small species persist,

like squirrels, opossums, bats, and armadillos, but the animal life is only a pale remnant of what occurred before.

Meanwhile, the government, alarmed at the swelling numbers in its cities, looks for further lands to colonize, and the cycle repeats itself.

Eventually, of course, the cycle will stop. There will be no more forest to clear, or even the most optimistic official will realize that what remains is too steep or too sterile for farming. The damage will have been done. At a wider scale, rain forest is an important absorber of carbon dioxide. Deforestation may aggravate the "greenhouse effect," leading to drought and rising sea levels as the earth's climate warms up in response to increasing levels of carbon dioxide.

Breaking the Circle

What if we could break this cycle before it runs its course, by making rain forest more valuable alive than cut? A growing effort is being made to find natural rain forest products that can feed people and provide them with at least a small cash income. These include iguanas, large lizards with a chicken-like taste, that are culinary delicacies in much of Central America; Brazil nuts that can be gathered from rain forest trees, and medicine that can be gathered from rain forest shrubs and trees. Still other products are being researched, or recovered from the folk knowledge of the original inhabitants. For example, the *Brosimum* tree has an edible sap and fruits that formed a staple of pre-European Mayan life. The species could be used the same way today.

Other efforts involve the restocking of wildlife, such as pacas and agoutis, which could range free on small wood lots and be harvested on a sustained basis. Again, the original inhabitants had taboos that prevented over-exploitation. Today, scientists must recover enough knowledge of the species to reinvent harvesting rules.

Parrot ranching? What if parrots could be harvested on a sustained basis? They would provide a formidable cash incentive to maintain rain forest. At first this seems impractical. To harvest a population, we need to know the size of the population; how many are being born, and how many die. In theory, we could take much of the production without causing the population to decrease. In reality, parrot populations are very difficult



Surinam Yellow-crowned Amazon (*Amazona ochrocephala*) is a rare species that is considered a pest and often destroyed by local farmers. See front cover for color photo.

to count. Parrots fly great distances each day. The observer is usually stuck on the ground with the parrots 40 or 50 meters up in the crown of a tree. Even the brightest macaws and parrots are difficult to see, as they sit quietly feeding. The only noise may be the squawking of arriving and departing birds, or the thud of heavy fruits crashing to earth after being discarded by a feeding bird. Counting the parrot population for a whole country would be just about impossible.

Another approach would be to allow exploitation of pest species, as countries such as Costa Rica do. Unfortunately, it isn't always clear what a pest is. A species may even be endangered but be a local pest, as is *Amazona ochrocephala* in Costa Rica.

Perhaps the best approach would be to think small, managing local populations. If there are a certain number of nests, harvest only a set number of young per nest, leaving the adults and the rest of the young to maintain the population. Local peasants could protect nest sites and even provide nest boxes. The birds would provide a substantial natural cash crop, and thus a strong incentive to

maintain the forest.

Scientists can provide some of the basic information needed for such a sustained harvest, but scientists know very little about parrots. It takes years of field work to build up an idea of the nesting ecology of most parrot species in the wild. We don't have such time. That is one reason aviculturists need to get involved. Parrot-ranching would require lots of information on normal clutch sizes and fledgling survival; what sort of nest boxes are best; what diseases and parasites may be present and what can be done about them; how supplemental feeding can be used to increase survivorship; and how frequently adults can be expected to breed. Admittedly, the captive situation is different from the wild, but it is often the only information we have.

So far so good, but what about cheaters? Why shouldn't a peasant take all the young in a nest instead of just one each year, or even take the adults? To mix sayings, a bird in the hand is worth two in the bush, even if you are killing the goose that laid the golden eggs. Also, what would prevent poachers from stealing nestlings?

Cheating requires someone to sell to. If the parrot ranchers can become

their own middlemen, selling directly as a cooperative to overseas buyers, there will be a vested interest, a parrot cartel, to control exploitation. Such a system should also be attractive to national governments. Cooperatives could be taxed on their products. At present, smugglers are not taxed, unless one considers bribes to officials as a tax. As contributors to national economies, cooperatives could put pressure on governments to maintain and even extend national parks and other reserves that provide feeding sites and reserve populations of parrots.

The cooperative would set limits as to how many birds each person could sell, based on the number of nests in his wood lot and on the number of parrots that would sustain reasonable prices in overseas sales. The cooperative would also provide veterinary assistance and sell the animals.

Again, aviculturists and others could provide valuable assistance on how to run the cooperative as a business, and how to market the animals and set prices. Costs of the cooperative would have to be passed on to the consumer, but without pricing birds out of the market. The cooperative would have to be lean and relatively efficient to avoid eating up its members' profits. All of this can be done, even if it won't necessarily be easy.

There is still a problem of cheating. Why should international buyers purchase birds from cooperatives? Why not buy cheaper birds from unregulated sellers or smugglers? Morally, the higher price of cooperative birds is the price of a sustainable resource. Practically, a cooperative, by cutting out middlemen and without the need for bribes, should be able to undercut prices of illegal birds.

Why not provide another incentive? Help make such cooperatives monopolies? Instead of U.S. state laws that forbid the sale of all wild-caught birds, why not allow only the sale of birds exploited in a sustainable manner — i.e., either hand-reared in the U.S. or ranching by cooperatives?

Like OPEC, cooperatives might get greedy from time to time, but like American oil production, aviculturists in the U.S. would find it more attractive and profitable to hand-rear their own birds, if cooperative prices became extortionary. Indeed, competition between cooperatives of different countries might keep the lid on prices.

There is still another problem of

cheating. Unless individual birds can be identified, the system is open to fraud. For example, an unscrupulous dealer could buy one bird from a cooperative, then use that documentation to import and sell additional, smuggled birds.

Pin-sized ultrasonic (2x10 mm) transponders already exist that can be injected into living flesh. Transponders cost \$4 to \$8. Each transponder produces a response at a single, unique wavelength so individuals can be uniquely marked. A customs wildlife inspector can "challenge" the transponder in an imported bird and determine if the bird's species and the transponder frequency are the same as that on its papers. A bird with a discrepancy or without a transponder would be seized.

Transponders could be issued in limited amounts to parrot-ranchers by cooperatives, based on number of nest sites. They could also be issued by national cooperative organizations overseas and by wildlife services of state governments to aviculturists within the United States. Cooperatives and wildlife services, in turn, could be assigned a fixed number of transponders by an organization such as CITES, the Convention on International Trade in Endangered Species. The CITES office would also serve as a permanent register of which transponders were assigned to which bird species by different cooperatives. Such records could also serve as a stud-book, avoiding inbreeding in captive-rearing programs.

Again, such a system would result in increased costs, although these would be reduced by widespread use of such a transponder system.

Conclusions

My suggestions are necessarily tentative. Some are probably unrealistic. They undoubtedly require modification to make them work. On the other hand, without this sort of effort, many parrots and other cage birds will become rarer, more difficult to acquire, and less legal to possess. Aviculturists at present are seen as part of the problem and treated accordingly in laws such as that of New York. If, instead, they can become part of the solution, building a sustainable wild bird trade, they ensure not only their own interests, but also protect rain forest and perhaps even the global environment. That's quite a lot for a bunch of parrots! ●



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