

Avifauna in Colombia

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During the last 25 years a fundamental change has taken place in the management of the natural resources in Colombia and other countries of our continent. This change is mainly manifested in an alarming destruction of forests. Naturally, large tracts of wild forests remain, mainly in the Amazon basin and on the Pacific coast of Colombia. But these forests neither shelter all the species of fauna nor contain all the varieties of flora.

In the mountains of the Cordillera de Los Andes one finds more alteration, or rather, more destruction of the primitive habitat and in some cases a radical change in the ecological aspect. In Colombia the Cordillera de Los Andes is composed of three large branches: Cordillera Oriental, Cordillera Central, and Cordillera Occidental. The first two have the highest summits, reaching in some cases to the perpetual snows of Sumapaz, Chita, and Cocui in the Cordillera Oriental, and of the Pande-Azucar, Huila, Tolima, Santa Isabel, and Ruiz in the Cordillera Central. In the Cordillera Occidental the Los Farellones de Cali is to the south, and the Paramillo to the north. In addition, there are two important mountains which are isolated from the Andean system; these are La Sierra Nevada de Santa Marta to the north and La Sierra de la Macarena to the east.

Except for the last, all these mountains have suffered changes in their ecological aspect. The old humid and cloud forests of the Cordilleras are continually being destroyed for cultivation of corn and other non-permanent crops which are successively replaced by pastures for colts or permanent pastures. These are in several cases improperly worked and overpastured, causing in this way the exhaustion of pastures and the destruction of the productive soil.

In most cases, clearing, farming, and pasturing is done on slopes—low hills (60 to 100 percent incline)—so steep that erosion is quickly produced by rainfall which carries the vegetal layer. In several places where

the constitution of the soil is not so firm even landslides are produced. To all these facts it should be added that burnings take place during the dry season and this finishes the destructive work of the axe. These are the prevalent conditions of most of the slope lands of the country.

In the llanos orientales, which previously were used exclusively for cattle, the gallery forests on the border of the rivers have been destroyed for the last 20 years. Here savanna burning is practiced as a method of straw farming (natural pasture). Burnings are produced every time a few sunny days occur; these are naturally more extensive and frequent during the dry season (January to March).

Although vast extensions of tropical forests on the Pacific coast and in the Amazon basin have been transformed into pastures and farming land, the problem is less serious in this region. But the forests on the Magdalena basin are fated to disappear, just as the Río Cauca basin has disappeared in almost all its extension due to the demographic pressure, which increases in an unbelievable rate in these regions. This is beginning to become evident in the llanos orientales with the immigration of peoples from the interior of the country.

The felling of trees without mercy in the forests, which in turn means destruction of the habitat for several species of fauna, has brought about the extinction of several forms, perhaps including endemic types, in vast areas of the country, and the invasion of open lands by savanna forms which were nonexistent before. Continuous collection and observation records are demonstrating this. Some birds which have definitely established themselves in the south are *Leistes militaris*, *Coccyzus pumilus*, and *Columbigallina talpacoti*. Even *Phalcoboenus megalopterus* has migrated north for the pastures and plains of the Cordillera Central. Before it was restricted to the south of Nariño, Colombia, and now we find it frequently in the central

part of Cauca. *Ptiloscelys resplendens* in the same regions is not rare, as is true of *Anas georgica spinicauda*. The stocking of trout in the rivers of the cordilleras has influenced the population of *Merganetta armata* by increasing the food supply.

But for each of the new invading species, hundreds of species which were common before have disappeared. Many people wonder and question what has happened to a particular bird, without realizing that the disappearance of birds is the result of their own way of handling nature.

In the Valle del Cauca plateau, for example, most of the birds which were abundant before have disappeared. The first to be affected were the forest birds. Most of the forests covering the plateau were initially cleared to pasture colts, then they were gradually converted into cereal and cotton fields, and then sugar cane fields. As can easily be understood, this radical change completely eliminated such species. Some of them should be mentioned: *Cyrtorellus soui*, *Mycteria americana*, *Ajaia ajaja*, *Cairina moschata*, *Sarcorampus papa*, several *Accipiter* and *Buteo*, *Buteogallus urubitinga*, *Falco albigularis*, *Columba cayennensis*, and *Ara severa*. Among the mammals eliminated in this region due to the same cause we can mention *Felis onca*, *Felis pardalis*, *Felis eyra*, *Sciurus granatensis*, *Cebus capuchinus*, *Alouatta seniculus*, *Aotus lemurinus*, *Nasua* sp., *Potos flavus*, and *Choloepus hoffmanni*, among the outstanding ones. Also the drainage of swampy areas has eliminated some other species: *Hydrochaeris hydrochoeris*, *Casmerodius albus*, *Leucophox thula*, and various species of the family Rallidae.

Recently, the continuous practice of aerial spraying of potent toxic pesticides has contributed to the extermination of several species of ground birds and insectivorous birds that eat the poisoned insects or are themselves trapped by the spray; and on several occasions, even fishes have been the victims of pesticides.

In several places in our cordilleras where we once had beautiful and rich forests feeding abundant and clear rivers and ravines with infinite aquatic life, forests full of magnificent wood and orchids, and innumerable fauna, we now contemplate only a scenery of desolation, erosion, or bare rocks and dry river beds.

What is more regrettable is that when we realize that our woods are exhausted and that the waters which are indispensable for irrigation of the valleys and the establishment of hydroelectric plants or aqueducts are exhausted, we think only reforestation is necessary.

The persons in charge of this work forget all about our native flora and fauna which are nourished there. They forget the scenery and the biological equilibrium and think only about planting exotic species, conifers, and eucalyptus. They think of the forest as an immediate source of raw material for the elaboration of paper, and the systematic destruction of the native trees which still exist in small quantities is continued for this same purpose. These trees include *Erythrina peopigiana* and *E. glauca* and the *Anacardium* sp. of our old forests of the valley. It is necessary for someone to study the native species, since among the 50,000 or more species of Colombian flora there must only be one or more species necessary for the production of wood pulp, and these could be cultivated for this purpose. We also need rapid-growing species in the secondary forests to protect the soil and the sources of water.

Also, one should not forget about hunting, and the pressures that some species undergo due to the lack of proper regulations which would impose bag limits and hunting seasons. Among the species requiring protection from hunting are the cats, deer, ducks, turkeys, pajaros, partridges, and torcazas (gray wild pigeon). Modern transportation facilities now give easy access to regions which were before either inaccessible or difficult to reach. Deer are also killed from planes, helicopters, jeeps, or other vehicles.

Our people need a better education on matters relating to nature and on the consequences of the irrational use of it. I would like to see among the technical missions, continuously being sent as advisors, not only economists, engineers of all sorts, and technicians in general, but also ecologists, naturalists, conservationists, and teachers of these specialties who could teach our leaders and the new generations a love and respect for nature, and, on this basis, develop a "rational" exploitation of our natural resources which are now being squandered without mercy.

With the elimination of the gallery forests in the llanos orientales a rich fauna is being exterminated: tapirs, jaguars, ocelots, peccaries, spotted caviars, deer, monkeys of all kinds, and agoutis. Most affected among the birds are the game birds such as pajaros, turkeys, tinamous, torcazas, and many others such as toucans and those essentially forest-borne such as Dendrocolaptidae, Formicariidae, Furnariidae, Psittacidae, Psophiidae, and many others. The species needing great extensions of forests to subsist, such as mountain tapirs, spectacled bear, and those which inhabit the underbrush of the

high barren plains, such as the small pudu, the rabbits (*Sylvilagus*), woodcocks like *Chubbia jamesoni*, and ducks (*Anas flavirostris* and *Merganetta colombiana*), are diminishing in an alarming way in the cordilleras. To all that has been mentioned must be added the exportation of and local commerce in all kinds of birds, furs, and game. For each quetzal or gallo de roca that arrives in the United States or Europe, 50 or more die in the hands of the collectors and traders.

In face of this sad general situation in Colombia, I think such urgent measures should be taken as: (1) promulgation of hunting rules (the government is considering a project of regulation on game); (2) the establishment of natural reserves and national parks duly guarded and administered to save some of our untouched areas before everything is distributed by the Agrarian Reform; (3) activate programs of education on ecology, natural resources, conservation, and rational management of forests and soil. I think this is the only way to obtain effective results in the long run.

Our Museum of Natural History is dealing actively with these programs, and, of course, the range of our activities is proportioned by its material and economic capacity. Personally, in addition to continuous work within the institution, I have visited other places in Colombia, such as Bogotá, Manizales, Popayán, Neiva, and Ibagué, with the purpose of making our problems known and engendering a concern for conservation. For this purpose I used visual aids such as films, slides, pictures, etc., quite successfully. People understand the problem better when it is explained objectively and visually.

Discussion

PETERSON. I am a member of the survival committee of the IUCN. In trying to determine for the "Red Book" what birds are in danger in the world (those with a population of less than 2,000 individuals), the one great area where we cannot determine to what extent certain species are in trouble is in tropical America. Dr. Lehmann, quite frequently I have asked you this question: "How many of this species, or that, do you think there are?" You have replied that it was no longer to be found in your own country, but that it perhaps still existed elsewhere. But how do we know that these particular birds are not gone completely—whole species?

LEHMANN. Yes. Some species as a whole, maybe, but most of the species still live in other places as local subspecies.

PETERSON. Did I hear correctly when you said that perhaps 500 forms are gone?

LEHMANN. At least from our list of birds.

PETERSON. Is it not reasonable then to assume that not just "forms" but perhaps full species are gone and we are not aware of it? I think this is reasonable. My friend Dean Amadon not too long ago made the statement that he thought the next 20 years would see a lot of extinction in tropical America. I am not sure that it has not already taken place.

LEHMANN. In my lifetime I have seen many things go.

PETERSON. And butterflies?

LEHMANN. At the Natural History Museum in Paris I saw collections of butterflies from Colombia taken 100 years ago that I have never seen in nature.

PETERSON. This is just some information about that chap who flies birds up to Florida. A friend of mine, Phil Livingston, wrote me that he spent four days at Leticia on the headwaters of the Amazon and found hardly any birds in the area; perhaps he should have gone farther from the city. He said there was a character from Tampa, Florida, who is running quite a business scouring the country for birds and other wildlife and shipping them to Florida. He has the local Indians collecting for him, paying them a peso or two—6 to 12 cents for captives. When asked about birds he boasted that the only ones we were likely to see would be in his local collecting zoo. We were taken to an Indian meeting area where he was offered about 100 captive birds taken from the nets and put in wicker baskets. Most were jaçanas. He refused them all, apparently because he had plenty of jaçanas. The Indians left at the same time we did without releasing the captives. I asked Mike about this. He said, "Well, they don't want them to get back in the nets again; instead they are left to starve to death."

BUECHNER. I am sure all of you will agree that if we did nothing more than publish the information which has been set forth in the past 2 days this whole conference would have been worthwhile. I hope, though, that we can take some action tomorrow, at least in terms of setting forth some ideas that might lead to action programs in various countries involved. Does anyone wish to comment or make a suggestion as to how we should proceed tomorrow?

HOWELL. I think that most of us have seen the areas of common concern and have either mental or written notes on specific things that need to be done, but I would like to have information provided as to what government agencies or international organizations recommendations could be directed. Perhaps Dr. Vogt would be the person to provide such information.

VOGT. Well, I could start it, but from country to country there will be variations. Certainly it is obvious that we should try to get to AID, which is doing more harm than good as far as conservation is concerned; and in many countries we might get them to work a little on better land-use patterns. And I should think that Fish and Wildlife would take up some of these problems—migratory birds, possibly—and somehow I would like to get back to the signatories of the Nature Protection Treaty of 1940. That is about 12 countries.

BUCHINGER. No, there are 13 countries, because in the last few months Brazil ratified the treaty and Panama signed and ratified it. Unfortunately there was absolutely no publicity about this. This was sort of disheartening for the politicians. Carlos Lehmann can tell you that Colombia was ready to ratify the treaty soon after Brazil ratified it, but as there was no publicity involved the politicians lost interest.

If I may suggest it, perhaps tomorrow we could draw up two recommendations: one referring to what should be done in the United States, or what can be done, and then one which advises the countries that such recommendations were made and might bring help, if they are adequately linked to similar policies in Latin American countries.

VOGT. I think that might come under the province of a treaty, but AID generally says it will not make recommendations; it has to have the recommendations or applications come from the respective governments. One of the problems is to get these governments to take action or make requests or recommendations.

BUCHINGER. We have international alliances, and all agreements have certain strings which were attached to them here in the United States.

In several instances the beneficiary government asks for something which it does not receive. In Argentina three AID programs have stopped because the Argentina Government was asking for ecological surveys before any interventions in the ecosystem had been made.

Another example of lack of ecological considerations in programing can be seen in the notorious case

of the banana plantation in Ecuador. The sponsors are quite unhappy about the delay in developing a big-scale program and blame the government for its lack of interest and cooperation. But let us see what did occur. To boost the economy in the region of a roadless area the hill slopes were deforested and bananas were planted. The banana stands were attacked by insects and an ample supply of DDT and other insecticides were provided to the Ecuadorians. The insects which attacked the bananas were controlled, but at the same time so much insecticide was absorbed by the surrounding waters that the fish in the nearby rivers died. Consequently, some 2,000 fishermen were handicapped in their business. The 20 families who would have profited by the banana crop did not fare so well either. They could not sell the fruit as there are no roads in the region on which to transport the ripe bananas. So, correctly, the government decided that in the future it is going to look more carefully into the ecology and economy of development plans, and this stopped or slowed down several foreign aid plans. I think it would be helpful if a recommendation would go out from this meeting that an ecological survey should be made before any intervention into the ecosystem. If such a proposal cannot be followed up, the development agencies evidently are not doing quite what the countries are asking for. You know in this line that the Corps of Engineers has been working on some projects in Panama that have caused quite a controversy. I think Mr. Eisenmann could tell you more about this.

EISENMANN. Somebody mentioned that the passage of a law in one country is likely to help adoption in another. I have noticed this in Panama. Mexico adopts certain "socially advanced" legislation. It may be unnecessary in Panama, but before long it will be introduced in the legislature there. Maybe Costa Rica will pass the same law, and Colombia, too. Latin American countries are most likely to imitate each other in legislation. The feeling is that if something is good for one, it may be good for another. Of course, we have much the same situation in the United States. A law passed by one state legislature is likely to be adopted by others. And conservation legislation is often widely adopted once it gets such a start.

VOGT. But, Gene, what do they do after they pass the law?

EISENMANN. Often they pass other laws! One gets the impression at times that recognizing a fine prin-

ciple by adoption of a law is regarded as more important than practical enforcement. However, in referring to imitative legislation in Latin America I had in mind certain labor laws, which I believe began in Mexico.

FOSBERG. I was talking to David Bell, the administrator of AID, not long ago. I asked him, point blank, if there was any mechanism in AID where their mistakes could be pointed out to them and corrected. He said, "Why certainly. Send a letter to me. We are very particular about such things, if only we find out about them." And I think that if the people here could actually formulate, not generalities, but specific things that have been done by AID that have turned out to be very ill-conceived, and these could be sent—addressed to David Bell—some of it would get through, and I think, perhaps, we might see some changes. Once this kind of thing gets into their thinking and is called to the attention of the responsible people, from above, they perhaps would think twice about doing it the next time. I think that this meeting could very well produce a series of such examples to be called to Bell's attention.

VOGT. I think this meeting should commend the Fish and Wildlife Service for the surveys and censuses they have started and do everything we can to encourage the continuation and extension of these censuses. If we could have just started 25 years ago we would be in a lot better shape!

ALDRICH. That is one thing, Bill, that could be done through the U.S. Government. It is about the only thing the Fish and Wildlife Service can do that I can visualize in this program about which we are talking. The migratory bird research angle is about the only thing that we can tackle at the present time that we have the authority to do. And also we have the facilities to do that. So if we could get some encouragement to proceed with that program and get adequate financing for it—then we could do a job. But we do need more support. There is no question about that.

HUMPHREY. John, does not the Fish and Wildlife Service undertake field studies on the distribution of migratory North American birds?

ALDRICH. We are doing fieldwork in the geographical distribution of migratory birds all the time. Do you mean doing fieldwork outside the United States?

HUMPHREY. What about the possibility of combining that sort of activity with, let us say, the study of the total avifauna of an area in the range of a particular group of North American migrants?

ALDRICH. That would be a legitimate problem for us if it is significant in understanding what is happening to our migratory birds. Yes, that could be part of the research that I am talking about, that we would be qualified to do and justified in doing because we have legislative authority. We are at all times restricted by authority given to us by Congress. Some times it looks like inaction on our part when actually we are limited by congressional acts in what we do.

FOSBERG. Do you have any arrangement with AID to carry on work under their auspices in foreign countries?

ALDRICH. No. There are no connections with AID whatsoever, as far as I know.

FOSBERG. The Geological Survey, for example, has a foreign geology branch which has no money of its own, but AID furnishes money for it to conduct geological programs in various countries where aid is being extended.

ALDRICH. As far as I know we have no connection of this sort. The limitations of government agencies are extremely complex, chiefly because of congressional acts and appropriations. I mentioned the foreign game bird introduction. That is something the Federal government has no control over. It is strictly a state matter. There is no Federal law against the importation by states of foreign game for liberation. So all we can do is to help the states do a better, more scientific job of introduction.

PETERSON. Is there a Federal law about song birds?

ALDRICH. There is a Federal law about the liberation of imported song birds, yes.

PETERSON. What is the difference in philosophy?

ALDRICH. I do not think there is any philosophical difference, but that is the law. Laws are not always based on philosophy.

PHELPS. Colombia has furnished an escape valve for us. The birds that Colombia exports take the pressure off Venezuela; however, the pressure on the red siskin, an almost exclusively Venezuelan bird, in danger of extinction, is about \$25 million, and continues because there are over one-half million canary fanciers in the world who seem to be willing to pay about \$50 for each bird. They cannot be bought in Venezuela legally, so there are some clandestine exports through Curaçao. This situation shows the need for better international cooperation. We should unite and help each other.