

THE GREATEST IMPEDIMENT TO THE STUDY OF BIODIVERSITY IN COLOMBIA

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Colombia, a country rich in biodiversity, has become, in recent years, a country rich in obstacles and barriers to conducting inventories and studies of this diversity. While most countries have few or simple laws to facilitate biotic inventories and regulate the export of flora and fauna for scientific research, in Colombia the government and its respective agencies (ministries and corporations) have created a thicket of rules, resolutions and provisions that discourage all researchers, national and foreign.

To study the Colombian biodiversity, the investigator must solicit a raft of clearances, permits, certificates and other documents to be able to do fieldwork, capture, transport, export, import, or borrow specimens. Similar measures must be taken in order to send specimens to specialists in other countries, and even to import dried specimens that were deposited in museums decades or centuries ago (whether the material is of Colombian origin or not). Even to return Colombian material that has been sent on loan, one has to cut through a degree of red tape that is unheard of in most countries.

It is astounding that those of us who wish to do science for the good of the country are faced with so many legal and administrative barriers, while those who profit illegally from the exploitation of our biological resources act with impunity. It is true that there must be regulations and standards for the protection of our flora and fauna, but these should be simple, easy to follow and designed to protect and promote research activity.

These are some of the difficulties a Colombian researcher must confront to be able to study the Colombian flora and fauna. Incredibly, it is no less difficult to study species from other parts of the world. In order to receive material on loan from museums in other nations, the investigator must have a research permit and a separate import permit that explicitly describes the project. What competence do the authors of these rules have to restrict the investigation of species from Africa, for example? What gives the Colombian state the power to interfere in science in other parts of the world?

Internally, some parts of the country are practically “off limits” for any type of study, as the amount of paperwork, as well as being cumbersome and time consuming, is also prohibitively expensive: almost all Regional Corporations require researchers to pay processing fees. This lack of support at home explains why many of our professionals and university students, trained at the expense of the Colombian people, emigrate to other countries to seek employment. This contrasts sharply with the efforts of the Colombian State and private academic institutions to train and employ high quality professionals.

Many of Colombia’s academic institutions were engaged in biodiversity research decades before environmental issues became politically attractive, having dedicated considerable human and material resources to protect and study Colombian biodiversity.

These same universities and research centers that have invested heavily in their biological collections must now be allowed to continue their work in service of the nation: promoting culture, development of human capital and helping to shape national identity.

The 21st Century is the century of genomics and molecular methods for the study of planetary biodiversity. The study of genes is now routine even among undergraduate students, and is a basic component of any project or scientific publication. In Colombia, the use of genes for biodiversity studies is still considered taboo. In the past two decades (since the introduction of legislation ostensibly designed to protect biodiversity), there have been only a handful of permits granted for access to genetic resources; many who went to the trouble to gather the initial documents gave up because of the high academic cost of devoting so much time to comply with legal requirements. This, in turn exacerbates the system's distrust of scientists. It also demonstrates that those who draft the laws were only summarily advised about the relevant scientific issues. Any professional with knowledge of genetics knows that DNA in and of itself is not a gold mine, and that much of the molecular information that is collected only has value for basic science.

Our lawmakers seem to forget that Colombia has no granite boundaries that isolate us from our neighbors, and the large number of populations of plants and animals of our forests and rivers flow freely between countries, invalidating any claims to "exclusivity" of a species' genetic profile. Any professional with basic knowledge of biology knows that if a gene of interest in commercial terms is found in one species, it may be present in other related species. The notion that each species and each gene is a potential gold mine is just political hyperbole and TV propaganda. Genetic studies yield much more data for basic research than for commercial

purposes. Nevertheless, in the Ministry of Environment (MMA), the assumption is that all biologists perform DNA analyses for commercial ends. How else to explain a system of paperwork that treats the applicant as a potential criminal?

Added to this bureaucratic landscape are the uncooperative and sclerotic Regional Secretariats of the Environment. Far from helping biodiversity researchers, they hamper the already arduous process of scientific investigation. If a researcher dares to express any doubt about a permit procedure, his/her samples can be ruthlessly confiscated and taken to the "basement" where they may remain months or years without having their status resolved. Individual researchers and even institutions have had their research programs cut short because of such irrational zeal for confiscating specimens; the extreme bureaucratic measures necessary to get specimens out of seizure can take up to three years or more, without guarantee of resolution. Why not simply allow the researchers to continue working while questions about biological material permits or other paperwork are being clarified?

Naturally there must be laws and regulations that protect our resources. But why can't they be clear and simple? Why wait so long to have the right to study our biological resources? Why is research in Colombia penalized, rather than stimulated?

Most gravely, scientific research on our biological resources has diminished; in many cases the delays and expenses can stop research in its tracks, thereby reducing our capacity to assess the structure, richness and dynamism of our biota. As a result of there being less basic information available about Colombia's biodiversity, the capacity to make informed decisions about conservation, monitoring, and proper use of resources is also reduced.

This mania for red tape only serves to isolate Colombia from the scientific and conservation communities of the World. Most countries foster and facilitate biodiversity research, but in Colombia, arcane procedures preclude or discourage normal scientific dialogue regarding loans, shipment and exchange of specimens for taxonomic revisions, studies in phylogeny, biogeography, ecology and other natural science disciplines. This closure to the outside world amounts to cultural suicide and extreme arrogance in the presumption that we alone have the ability to characterize biodiversity. The task of documenting global diversity has taken over 250 years and involved scientists from around the world, and yet even by the most optimistic estimates, we have achieved only 30% of our common mission.

Thus, we (the community of biodiversity researchers) ask of the MMA that our right and duty to do our work honorably and efficiently be respected, and that the punishing rules, procedures and permits imposed by the State be eliminated so that we may be allowed to inventory and study Colombia's biodiversity.

For purely scientific studies, the formalities should be reduced to a simple approval by the Ministry of Environment, as long as the researcher agrees to deposit his/her specimens in a certified museum or biological

collection. All additional procedures should be eliminated, as they constitute a serious obstacle to the development of science in Colombia. The requirement that certified institutions must apply for special permits to import biological specimens should also be lifted; it is grotesque and unnecessary and should not exist in any civilized country. The role of local environmental "control" agencies in permit processes should also be reevaluated; officials in regional offices should focus on the issues that really are destroying our biodiversity such as wildlife trafficking and environmental pollution.

Only once the restrictions upon us are lifted can our scientists and institutions get on with the task entrusted to us, a duty formalized in the oath we take upon graduation as professionals: to inventory, know, understand and inform others about the richness of Colombia's organisms and ecosystems, among the greatest treasures that a country may possess.

Colombia faces many serious threats to its natural resources, such as deforestation, mining, water loss and local extinction of plants and animals. Bureaucrats of the MMA and other environmental agencies, many of whom have never set foot in a rain forest or climbed a mountain, should dedicate their energy to fighting these threats instead of writing laws against biologists.