

## Message from the President

As is the case with individuals or human societies, institutions fulfill stages in their lives. INBio is not the exception. The year 2005 marked the completion of a stage that started at the end of 1997, which has been particularly important in our history. During this eight-year period the organization has focused its work greatly in carrying out the “Integrated Program for Biodiversity Resource Development”, in partnership with the National System of Conservation Areas (SINAC), of the Ministry of the Environment and Energy (MINAE).

This program was jointly financed by the Global Environmental Facility (GEF) –with the World Bank acting as the Executor Agency– and the Governments of the Netherlands and Norway. In addition, it is worth noting the technical input provided by a group of some 350 taxonomists from various countries and organizations, whose work has represented several million dollars. Indeed, this is one of the largest grants ever made to a civil society organization –in Costa Rica and elsewhere— with a view to advancing in the search for knowledge necessary to save and use the country’s biological diversity in an intelligent manner.

Such generous support makes us ethically bound to honor the confidence placed in our institution, making this program

successful in every way. The results summarized in this Annual Report, together with the donors’ own evaluations, leave us all –donors and executors alike–with a sense of accomplishment for having met the proposed objectives and making such undeniable progress in terms of the knowledge we sought.

Inherent to the implementation of this program, which for eight years had such exceptional financing, was the fact that at the same time INBio had to ensure its own institutional consolidation and sustainability. Thus, upon concluding this program we were expected to have built capacity to generate our own resources, thereby reducing our reliance on “soft” foreign resources. The logical transition to this new stage of organizational development began harmoniously during 2005, as the results presented in this Annual Report clearly show.

The issue of organizational sustainability should also be seen in the context of a world where biodiversity is no longer a priority in the development cooperation agenda of industrialized nations. Therefore, financial and political support has systematically decreased since the 1992 Rio Summit, and the environment has been replaced as a top priority by issues like poverty, food, and security and terrorism conflicts.

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Added to the above is the fact that because of its level of development, Costa Rica as a country is also no longer a subject for international cooperation.

And so INBio had the good fortune of being very well positioned at the right time, and was thus able to receive such significant support, which was well used to do its substantive work, and also to consolidate itself as an institution, as was mentioned above.

The reality we anticipated and prepared for was just that we would have to move to this stage, when we will have to rely largely in our own ability to generate resources. And while we are succeeding, we should also acknowledge that, as has been happening almost everywhere else in the world, resources available for generating knowledge about our biodiversity have decreased markedly. This has forced us to significantly reduce all taxonomic activities, though luckily for us we have enough material and information already collected in need of processing, so as to be able to continue working for a long time.

We hope, like many others, that the world of cooperation will again recognize the importance of taxonomic work for the preservation of biodiversity and that it will provide it with adequate support, since no country can undertake it alone given the nature of this scientific activity. It is truly an international task.

While it is true that within this balance of things generating biodiversity knowledge has been somewhat affected, it is also true that institutional work on subjects relating to the social and economic dimension of biodiversity has been markedly strengthened. And this is something definitely good. The social and economic positioning of biodiversity within the country's life as a whole has gradually but markedly consolidated, and INBio can objectively show with facts its contribution to make this happen.

The country is increasingly valuing its biodiversity, and that is the heart of our mission.

Rodrigo Gámez Lobo  
*President*  
National Biodiversity Institute

## Culminating a successful stage

The year 2005 was a landmark for the National Biodiversity Institute (INBio), as the Integrated Program for Biodiversity Resource Development was successfully concluded. This program was financed by the Global Environmental Fund (GEF/World Bank), and the Governments of The Netherlands and Norway. Moreover, it benefited from technical cooperation by a group of international experts in Systematics.

This program, which was implemented from October of 1997 through December of 2005 jointly with the Ministry of the Environment and Energy (MINAE), through the National System of Conservation Areas (SINAC), sought to devise mechanisms to integrate the country's conservation and development efforts, by drawing on existing knowledge for a sustainable use of biodiversity.

Thus, the program contributed to the National Conservation Strategy in all three lines of action, namely: a) saving representative samples of wild biodiversity; b) improving knowledge about the country's wealth of biodiversity; and c) finding sustainable and intelligent uses for such biodiversity.

The Integrated Program was a highly significant contribution to both INBio's development and to a sustainable management of Costa Rican biological

wealth. Among its various achievements, generating knowledge and transferring information for support decision-making and valuing biodiversity was foremost.

### CONTRIBUTIONS TO INBIO'S INSTITUTIONAL DEVELOPMENT

Institutional development helped position INBio as a reference center on biodiversity issues at both a national and an international level. Moreover, it contributed significantly to lay the foundations for INBio's sustainability.

The main contributions of the Integrated Program for Biodiversity Resource Development in this area were as follows:

- Developing an orderly process of planned succession.
  - Promoting self-sufficiency of INBiotparque, Editorial INBio (INBio's publishing house), and Bioprospecting.
  - Streamlining INBio's system of administration and finance, including specialized systems for INBiotparque and INBio's publishing house.
  - Consolidating the system of biodiversity information management (Atta.)
  - Bringing institutional strategic planning up to date, in the areas of "what to do" (Institutional Essence) and "how to do it" (Towards a Sustainable INBio.)
- The Organizational Strategic Plan

was drawn up as a result of these two processes.

- Moving towards a greater harmonization of the INBio-SINAC strategic partnership by strengthening SINAC's capacity, especially in terms of infrastructure for research (to support decision making on management) and disseminating information on protected biodiversity.
- INBio has also supported current negotiations for new projects aimed at finding new sustainable uses for biodiversity, by means of its Bioprospecting Program.

## KNOWLEDGE GENERATION

At the same time, the Integrated Program contributed significantly to strengthen generation of knowledge about the country's biological wealth, both regarding ecosystems and species. At the level of species, efforts focused on eight taxonomic groups (Hymenoptera, Plants, Nematodes, Mollusks, Coleoptera, Diptera, Lepidoptera and Fungi.) The following results are worth noting:

- A 29.6% growth in INBio's collection of taxonomic groups.
- A 251% increase in the number of specimens identified at species level within INBio's collection. In turn, this represents a 34.4% increase in the three million species collected up until now.
- A 117% increase in the number of species catalogued within INBio's collection.

- Description for Science of 1,722 new species as a result of the inventory process. This is an increase of nearly 153% with respect to the period 1989-1997.
- Publication of over 638 scientific articles on the results of inventory work.
- Integration to the inventory work of over 350 taxonomists from various countries and institutions, whose voluntary work adds to over US\$20 million.
- Implementation of ECOMAPAS, allowing INBio to start an inventory of ecosystems. This will be an important tool to support decision making in Conservation Areas.

## INFORMATION TRANSFER TO SUPPORT DECISION MAKING AND APPRECIATION OF BIODIVERSITY

The Integrated Program for Biodiversity Resource Development has also contributed to biodiversity conservation and sustainable use, by providing the information generated (basic information obtained from the inventory, specialized reports and ecological studies) as an input for supporting actions in Conservation Areas; and by disseminating and transferring knowledge about biodiversity to society in both electronic and printed format, as well as through training activities and exchange of experiences.

In the area of dissemination and transfer of knowledge, the program's main contributions were:

- Incorporation of 4,106 specimen pages into INBio's web site.
  - Characterization of ecosystems, covering up to 44% of the national territory.
  - Systematization of information on biodiversity, making it accessible online through the Atta information system, which earned the 2004 Augusto González de Linares Award from the University of Cantabria, Spain.
  - 65 editorial products (books, posters, guides, videos)
  - 42 ecological studies fulfilling specific SINAC demands, classified into the following categories:
    - Sustainable management of plant populations and assessments of dangers to populations or possibilities for exploitation.
    - Population studies on endangered mammals or as environmental indicator species.
    - Population studies on endangered birds.
    - Use of habitats and resources (butterfly farms) and impacts of hunting on bird and mammal populations.
    - Management of marine species and habitats.
- Finally, it could be said that the Integrated Program has reaped benefits not only for the country, since some of its contributions are important on a worldwide scale:
- Developing practical methodologies on biodiversity inventories that have been recognized by global initiatives like ALL, GBIF, and also on a regional scale.
  - Describing new species not known to Science (an average of one species every three days.)
  - Incorporating results into the web page (<http://atta.inbio.ac.cr>), for consultation by the world's scientific community and the general public.
  - Inventory of the eight taxonomic groups mentioned before includes species widely distributed throughout Central America and South America.
  - Possibilities for fast training in methodologies for parataxonomists, technical experts, and curators.
  - Contributing with legal, contractual and financial models to be used with the biodiversity inventory.
  - New joint work modalities involving the public sector and non-governmental organizations, with a view to promoting a sustainable management of biodiversity.

## Science

### INVENTORY AND MONITORING

Generation of knowledge about Costa Rica's rich biodiversity has been an essential component of INBio's work. Every day, the Institution's scientists and technical experts produce information on the country's species, ecosystems, and uses. Some of INBio's achievements in this area for 2005 are as follows:

- 226 species new to science discovered based on INBio/MINAE materials (a total of 2,483 species from 1989 to this date): 16 botanical species, 195 arthropod species, 14 fungi species, 1 nematode species.
- 105 new scientific publications, in addition to over 850 publications produced up to this date.
- Land use coverage identified for 56.3% of Costa Rican territory (a 12.4% increase with respect to 2004.)

During 2005 INBio worked on the molecular taxonomy of some insects, spiders and fungi. Additionally, monitoring work was done on water insects, and the DNA sequences obtained (by Dr. Craig Venter) from the marine samples from waters surrounding Cocos Island were analyzed.

Furthermore, information was collected on plants and beetles with a view to establishing the Maquenque National Park.

Moreover, an analysis was conducted on the ecological integrity of the La Amistad binational site (Costa Rica–Panama), and a monitoring program was designed. A study was also conducted on water insects at Osa Conservation Area.

### BIOPROSPECTING

As a result of INBio's research work in bioprospecting, a total of 12,750 new intermediate products were developed. These were produced from extracts, chemical compounds and fractions, fungi and bacteria strains, and by isolating DNA to obtain enzymes and *in vitro* plants.

INBio Bioprospecting collections currently comprise 2,797 strains of fungi, 2,282 strains of bacteria, and 10,000 *in vitro* plants.

During 2005 work continued on the basic research to find a natural-based product for combating the larva of *Aedes aegypti* mosquito –vector of dengue fever.

To this end, Pfizer pharmaceutical company donated INBio nearly 13 million colones. This donation is being used to finance the project "*Aedes aegypti*: Biological and Chemical Control", which will study two microfungi that have been demonstrated to produce high mortality rates of mosquito larvae in preliminary lab trials.

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Other new projects were implemented or launched with both national and foreign companies and academic institutions.

Two basic research projects should be mentioned, both of them signed with the United States' Harvard University School of Medicine. Based on these projects, knowledge is expected to be gained on organisms that have been little studied, such as endophyte fungi, terrestrial and marine microfungi, lichens and myxobacteria.

Furthermore, cooperation relations were established for the first time with the Government of Korea, with a view to setting up a Biodiversity Research Center. This initiative is expected to result in the purchase of state-of-the-art equipment, bring about exchanges with Korean and other countries' scientists, as well as to facilitate venturing into and developing

capacity in new fields of knowledge such as functional genomics.

Also in 2005 the Project "Initial Phase for Implementation of a National Biotrade Program in Costa Rica" was implemented, in the context of the Biotrade Initiative of the United Nations Conference on Trade and Development (UNCTAD), and financed by the Government of Switzerland's State Secretariat of Economic Affairs (SECO) and the Corporación Andina de Fomento (CAF).

Thanks to this project, biotrade was positioned in the agenda of Costa Rica's public and private sectors, which are both interested in producing and trading goods and services derived from a sustainable use of biodiversity.

## Bioliteracy

### INBIOPARQUE

In 2005, a total of 159,733 people visited the "house of biodiversity and bioliteracy", as INBioparque is known. This represented a 13% increase as compared to 2004. Among the main projects carried out at INBioparque were the following:

- Inauguration of the "Green Hideout" –a trail and children's play area (8th of February 2005).
- Inauguration of the room "Mangrove Treasures", which recreates some of this ecosystem's characteristics and highlights its importance (2nd of June 2005).
- Inauguration of "Base CA-05", a room where visitors take a virtual flight through Central America. The room is fitted out with a big screen and software provided by the United States Space Agency (NASA) (30th August 2005).

These last two rooms are part of the project "Virtual Communities for Biodiversity Learning", carried out by INBioparque with funding from the US-Costa Rica Foundation for Cooperation (CRUSA.) The beneficiaries of this initiative are students from communities located within the Conservation Areas where there are INBio

parataxonomists working and where the institution conducts research.

In 2005 INBioparque also received special support from the Costa Rican Board of Tourism (ICT), Merck Sharp & Dohme, the National Bank, the Bank of Costa Rica, the Alliance Française, and the Government of Spain (which has supported INBio's Bioliteracy program since 2000.)

In addition, thousands of students visited the park thanks to the program "Adopt a School" and the contribution from the following companies and institutions: Corporación de Supermercados Unidos (CSU), Sunny Land Tours, Merck Sharp & Dohme, National Geographic, Empresa de Servicios Públicos de Heredia (ESPH), Compañía Nacional de Fuerza y Luz (CNFL), Intel, and Procter & Gamble.

### EDITORIAL INBIO

A 65% increase was recorded in the number of books sold by INBio's publishing house in 2005. Moreover, nine books were published (list enclosed), for a total of 76 books produced up to this date.

### INBIO DIGITAL INITIATIVE

Thanks to continuous work for keeping INBio's web page up to date, in 2005 the number of daily page hits increased by an average of 20,154. The following

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innovations were incorporated to the web page:

- The species page was renovated (formerly Basic Information Units - UBI)
- The Digital Biodiversity and Conservation Information Center, Otus, was incorporated.
- The pages on Ecological Studies and Economic Appraisals were also incorporated to the web site.

## Conservation

With the aim of supporting current conservation efforts in Costa Rica, INBio continues to generate reliable scientific information about biodiversity uses and state.

In 2005 a total of 24 reports were prepared for management and dissemination purposes (5 ecological studies, 19 biodiversity technical reports and maps.) The following deserve special mention:

- A brochure was designed on environmental indicators for land use planning on a cantonal basis.

- Costa Rican natural patrimony management was analyzed for the 2004 State of the Nation Report.
- The list of endemic plants was updated (1,072 species).
- Support was provided for drawing up protected wildlife areas' management plans.
- Sustainable tourism plans for protected wildlife areas and their zones of influence.

In the course of this process, INBio's partnerships with the SINAC, established in 1992, was strengthened and consolidated.

## Awards

In 2005 INBio's web site was recognized twice over. On 21<sup>st</sup> September it was awarded the first place in the II National Web Site Contest, jointly hosted by the Ministry of Science and Technology, the Costa Rican Electricity Institute (ICE), and Radiográfica Costarricense (RACSA.)

By earning this award, INBio was commended with representing Costa Rica at the contest held by the Latin American Association of Research Centers and Telecommunications Companies (AHCJET), in Buenos Aires, Argentina, where it was awarded as the "Second best Latin American portal".

### INBIO AWARD FOR COSTA RICAN BIODIVERSITY CONSERVATION MERITS

In 2005, INBio granted the **INBio Award for Costa Rican Biodiversity Conservation Merits**, which highlights the work of individuals and institutions with an outstanding track-record in preserving the natural patrimony.

In this third edition, the INBio award fell on Álvaro Ugalde Víquez, who is a major promoter of Costa Rica's system of national parks.

"With his dedication and commitment Don Álvaro has inspired and motivated not only park rangers but also numerous

non-governmental organizations dedicated to conservation, through his day-to-day, permanent contact", noted the Jury.

### THE OJOCHE AWARD

The **Ojoche Award** was created by INBio to recognize SINAC officials for their outstanding work on activities for conservation and development of protected wildlife areas.

José Antonio Salazar, administrator of the Manuel Antonio National Park, was the winner for the individual category in 2005, whereas officials from the Tempisque Conservation Area (Norma Rodríguez, Nelson Marín, Gerardo Martínez, and Lirae Sancho) were distinguished in the Group category for their efforts to protect the *Jabiru mycteria*, a bird commonly known as the jabiru.

### EXCEPTIONAL TREE AWARD

The **Exceptional Tree Award** was created by INBio's Board of Directors in January 2003, with the purpose of highlighting the importance of trees and their meaning in the life of people and their communities.

On 15<sup>th</sup> June 2005 this award fell on a Guanacaste tree (*Enterolobium cyclocarpum*) located in the Héctor Zúñiga park, in view of its importance for the community.

## Public relations

In 2005 INBio received 447 special visitors in total, among them delegations from Korea, Great Britain, Argentina (Misiones) and Dominica, as well as diplomats, Latin American legislators, entrepreneurs, academics and non-governmental organization representatives.

On the whole, INBio facilities were visited by representatives from 27 countries throughout the world.

Also during this period, INBio did an intensive dissemination work in newspapers, as well as radio and television stations at both a national and an international level.

This resulted in 282 newspaper articles (four of them front page pieces), 113 television reports, and 132 radio reports, including 37 editions of the program *Biodiversos*, produced by INBio and broadcast by Radio Nacional (101.5 FM).

## 2005 Novelties

1. INBio is regarded as a top-level organization for developing and leading consultancies, processes and assistance provision in areas like monitoring and assessing the state of biodiversity, ecotourism, biotrade and biodiversity information systems.
2. A greater institutional involvement and impact in communities is noted.
3. A more active involvement in inventorying processes, geographical information systems, and computing developments for selling services and negotiating projects can also be observed.
4. The first bioprospecting products were placed on the market with a high-level biotechnology company (Diversa Corporation.)
5. Cooperation relations for bioprospecting are established for the first time with two Asian countries, namely Japan and Korea.
6. INBio becomes involved in climate change issues, by formulating a proposal jointly with the National Meteorological Institute (Costa Rica).
7. INBio's publishing house experiences a significant growth, bolstering its capacity for impact in domestic and international markets.
8. INBio is invited to tender its services in Central America and Spain.

## The financial picture

The following is an overview of INBio's financial standing in 2005, including the origin and use of funds, and also some comparisons with regard to 2004.

**FUNDING SOURCES.** INBio's three main funding sources are external cooperation, earned income, and special projects, as detailed in the **TABLE 1**. The chart 1, **FUNDING SOURCES** shows the distribution of the revenue received during the year.

**USE OF THE FUNDS.** INBio's overall operation cost amounted to US\$6.99 million (nearly 3.4 billion colones), which were allocated as follows. The chart 2, **USE OF THE FUNDS** shows the share (in percentages) of the various activities in the total expenditures.

### FUNDING SOURCES

#### **EXTERNAL COOPERATION 24%**

Amount in Colones                      ¢761,172,242

Amount in Dollars                      \$1,592,538

These funds were distributed as follows:

#### *Bilateral agencies 63%*

Amount in Colones                      ¢483,177,009

Amount in Dollars                      \$1,010,912

From: Government of the Netherlands  
(Netherlands Development Assistance - NEDA).

#### *International Organizations 37%*

Amount in Colones                      ¢277,995,233

Amount in Dollars                      \$581,627

From: World Bank, UNDP, and Inter-American  
Development Bank.

#### **EARNED INCOME 67%**

Amount in Colones                      ¢2,168,338,252

Amount in Dollars                      \$4,536,636

Distributed as follows:

#### *Contracts with bilateral agencies 19.99%*

Amount in Colones                      ¢433,494,543

Amount in Dollars                      \$906,965

From: Spain and Norwegian Agency for  
Development Cooperation (NORAD CA).

#### *Contracts with private companies 1.16%*

Amount in Colones                      ¢25,053,995

Amount in Dollars                      \$52,418

From: DIVERSA Project.

#### *Research agreements 10.33%*

Amount in Colones                      ¢224,069,785

Amount in Dollars                      \$468,803

From: EARTH, Root and Shorts, Ehime College-  
Japan, Will Flowers, Terry Ray Bradley, Merck  
Sharp, Pfizer Institute, ICBG, ORCOSA, NCDDG,  
Vaco Laboratories, Monty Wood, INDENA.

#### *Sale of goods and services, interest, and others 58.80%*

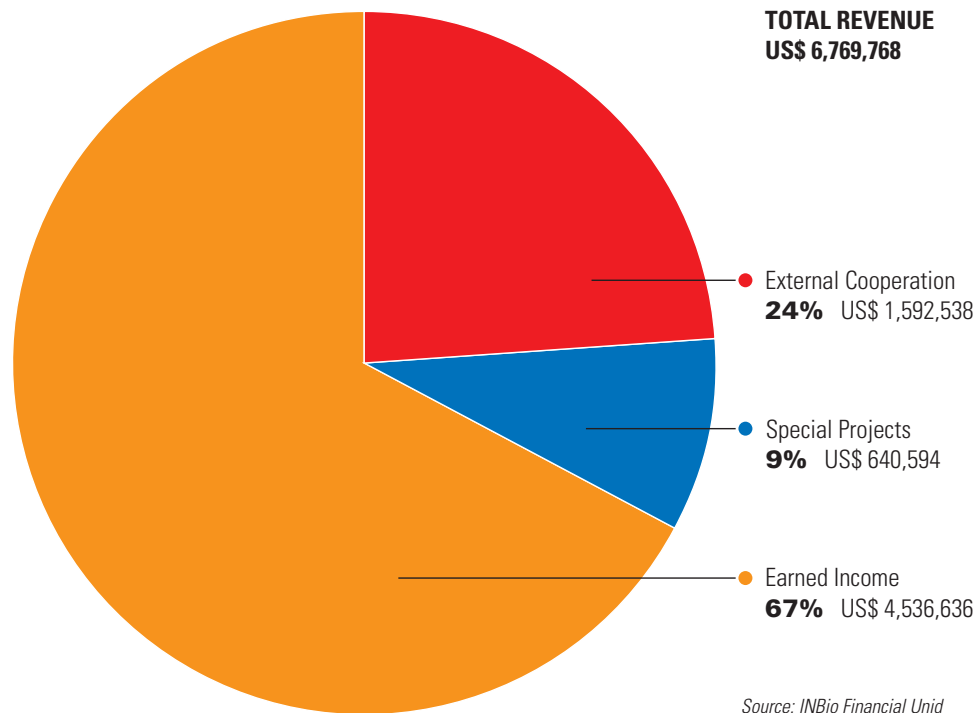
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|  |                |   |              |
|--|----------------|---|--------------|
| Amount in Colones  | ¢1,274,973,627 | <i>Bilateral agencies</i>                                   | 11.35%       |
| Amount in Dollars  | \$2,667,523    | Amount in Colones   | ¢34,758,007  |
| From: NINA IDB, Altamira Biolley, ICT, Sunny Land Tours, ARCE and INBio Trust Funds, Soportes, Overhead, Editorial, INBioparque, and sale of services. |                | Amount Dollars  | \$72,721     |
|  |                | From: Spain- IGACI.   |              |
| <i>Foundations</i>   | 0.29%          | <i>Research agreements</i>                                  | 0.36%        |
| Amount in Colones  | ¢6,367,487     | Amount in Colones   | ¢1,106,772   |
| Amount in Dollars  | \$13,322       | Amount in Dollars   | \$2,316      |
| From: FUNDEVI and National Science Fund.   |                | From: Monty Wood.   |              |
| <i>Conservation NGOs</i>   | 9.43%          | <i>Foundations</i>  | 19.89%       |
| Amount in Colones  | ¢204,378,814   | Amount in Colones   | ¢60,905,623  |
| Amount in Dollars  | \$427,605      | Amount in Dollars   | \$127,428    |
| From: The Nature Conservancy, Darwin, Conservación Internacional, Gruas, Conicit, Concultura El Salvador, and USAID.                                   |                | From: CR-USA Foundation                                     |              |
| <b>SPECIAL PROJECTS</b>  | <b>9%</b>      | <i>Conservation NGOs</i>                                    | 1.48%        |
| Amount in Colones  | ¢306.179.249   | Amount in Colones   | ¢4,522,352   |
| Amount in Dollars  | \$640.594      | Amount in Dollars   | \$9,462      |
| Distributed as follows:  |                | From: Missouri Botanical Garden.                            |              |
|  |                | <i>Universities</i>   | 66.92%       |
|  |                | Amount in Colones   | ¢204,886,495 |
|  |                | Amount in Dollars   | \$428,667    |
|  |                | Support to: University of Pennsylvania and Duke University. |              |

TABLE 1  
National Biodiversity Institute Association  
**Revenues comparison for the year 2005**

|                       | 2004                 |                  |             | 2005                 |                  |             | Percentage of variation |
|-----------------------|----------------------|------------------|-------------|----------------------|------------------|-------------|-------------------------|
|                       | CR Colones           | US Dólares       | %           | CR Colones           | US Dólares       | %           |                         |
| Revenues              |                      |                  |             |                      |                  |             |                         |
| External cooperation  | 1.081.770.746        | 2,470,332        | 42%         | 761.172.242          | 1,592,538        | 24%         | -35.53%                 |
| Earned income         | 1.299.815.019        | 2,968,258        | 50%         | 2.168.338.252        | 4,536,636        | 67%         | 52.84%                  |
| Special projects      | 220.775.017          | 504,162          | 8%          | 306.179.249          | 640,594          | 9%          | 27.06%                  |
| <b>Total revenues</b> | <b>2.602.360.782</b> | <b>5,942,752</b> | <b>100%</b> | <b>3.235.689.743</b> | <b>6,769,768</b> | <b>100%</b> | <b>13.92%</b>           |

CHART 1  
Asociación Instituto Nacional de Biodiversidad  
**FUNDING SOURCES**



#### USE OF THE FUNDS

##### **SERVICE PLATFORM**

**13%**

Amount in Colones

¢421,590,056

Amount in Dollars

\$882,058

This is the support structure that upholds the entire institution to facilitate administrative and financial operations. (It includes human resources and internal communication, budget and programming, procurement, general maintenance, technical support and networks, general services, treasury, project design and follow-up, accounting, and platform management.)

##### **DIRECTORATE**

**6%**

Amount in Colones

¢201,430,173

Amount in Dollars

\$421,436

This is the unit responsible for strategic leadership, technical guidance, quality control, strategic planning, budget planning, and the like.

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**STRATEGIC ACTION UNITS** **49%**  
 Amount in Colones           ¢1,673,669,224  
 Amount in Dollars           \$3,501,681  
 Strategic Action Units are responsible for all of the Institute's technical endeavors and knowledge dissemination activities.

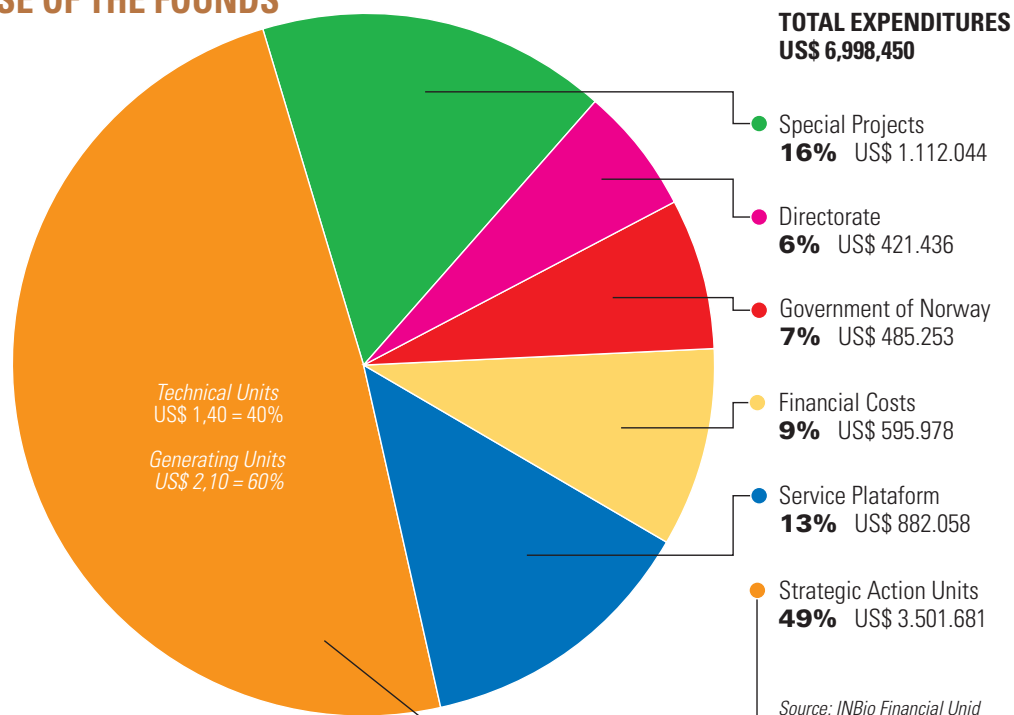
**GOVERNMENT OF NORWAY** **7%**  
 Amount in Colones           ¢231,932,292  
 Amount in Dollars           \$485,253  
 This corresponds to the Project "Developing Capacities and Sharing Technologies for Biodiversity Management in Central America", whose ultimate goal is as follows: "The capability of selected herbariums in the Central American region is strengthened at individual, institutional and systemic levels; and the region

advances toward an agenda for the conservation and sustainable use of biodiversity."

**SPECIAL PROJECTS** **16%**  
 Amount in Colones           ¢531,514,483  
 Amount in Dollars           \$1,112,044  
 This corresponds to projects managed by INBio, such as the ALAS project in La Selva, purchase of computers for schools –funded by AECL– Daniel Janzen's butterfly larvae project, etc.

**FINANCIAL COSTS** **9%**  
 Amount in Colones           ¢528,925,007  
 Amount in Dollars           \$595,978  
 These amounts correspond to short and long term debts contracted with Henrieta S.A., Banco Interfin, and Transamerica Bank & Trust.

**CHART 2**  
 Asociación Instituto Nacional de Biodiversidad  
**USE OF THE FUNDS**



## ANNEX 1: Scientific Publications for 2005

(164 publications)

- Adamski, D. 2005. Review of *Glyphidocera* Walsingham of Costa Rica (Lepidoptera: Gelechioidea: Glyphidoceridae). *Zootaxa* 858: 1-205.
- Ahmad, W., and A. Shaheen. 2005. *Ecanema ecae* gen. n., sp. n. (Nematoda: Dorylaimida) from Costa Rica. *Nematology* 7: 381-85.
- Ahmad, W., and A. Shaheen. 2005. A new and a known species of the genus *Chrysonema* Thorne, 1929 (Nematoda: Dorylaimida) from Costa Rica. *Nematologia Mediterranea* 33: 55-60.
- Anderson, R. S. 2005. New Oxycoryninae from Central and South America: phylogenetic and biogeographical implications (Coleoptera: Belidae). *Systematic Entomology* 30: 644-52.
- Arce-Pérez, R., and M. A. Morón. 2005. New species and new records of species of *Macroductylus* Dejean (Coleoptera: Scarabaeidae: Melolonthinae: Macroductyini) from Honduras and Nicaragua. *Zootaxa* 1012: 23-37. (CONTIENE ESPECIMENES DEL INBio).
- Ávila, S., and R. W. Flowers. 2005. New species and records of *Ulmeritoides* (Ephemeroptera: Leptophlebiidae) from Costa Rica. *Zootaxa* 1010: 1-14.
- Barrantes, G. 2005. Aves de los páramos de Costa Rica. In: *Páramos de Costa Rica*. 1a ed. Eds. M. Kappelle, and S. P. Horn. Santo Domingo de Heredia: Editorial INBio, 2005. p. 521-532.
- Barrie, F. R. 2005. Thirty-five new species of *Eugenia* (Myrtaceae) from Mesoamerica. *Novon* 15: 4-49.
- Barrientos, Z. 2005. Moluscos terrestres de los páramos de Costa Rica. In: *Páramos de Costa Rica*. 1a ed. Eds. M. Kappelle, and S. P. Horn. p. 501-512. Santo Domingo de Heredia: Editorial INBio.
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## ANNEX 2: Taxonomists cooperating in 2005

**T**hrough the years, research development on Costa Rica's biodiversity has been strengthened thanks to the joint work of both Costa Rican and foreign researchers. The knowledge and experience gained, and developments achieved in Costa Rica are complemented with the input from foreign individuals and institutions. The joint work of INBio and the Ministry of the Environment and Energy (MINAE) since 1989 in conducting a National Biodiversity Inventory is no exception to this.

Thus, nearly 300 persons and 170 institutions and universities make up a scientific network that has provided this effort with their expertise and various kinds of resources. These are invaluable contributions to biodiversity conservation in terms of existing capacities at individual, institutional and national levels.

Abel Pérez, Universidade Federal do Rio de Janeiro, Brasil  
Adalberto Santos, Instituto Butantan, Brasil  
Alberto Schigel, Universidad de Rovira i Virgili, España  
Albino Sakakibara, Universidade Federal do Paraná, Brasil  
Aldo Zullini, Milan University, Italia  
Alejandro Esquivel, Universidad Nacional de Costa Rica, Costa Rica  
Alejandro Valerio, University of Illinois, USA  
Alessandra Baptista, University of Maryland, Brasil  
Alexander Aguiar, Universidade de Sao Paulo, Brasil  
Alexander Rojas, Museo Nacional, Costa Rica  
Alexey Tishechkin, Luisiana State University, USA  
Alfred Newton, The Field Museum of Chicago, USA  
Allen Norrbom, United States Department of Agriculture, USA  
Alma Solis, United States Department of Agriculture, USA  
Alonso Santos, Universidad de Panamá, Panamá  
Amy Pool, Missouri Botanical Garden, USA  
Ana Franco, Universidad de Antioquia, Colombia  
André Aptroot, Koninklijke Akademie van Wetenschappen, Holanda  
Andrew Bennett, Royal Ontario Museum, Canadá  
Andrew Deans, University of Illinois, USA  
Andrew Short, Cornell University, USA  
Andrew Smith, University of Nebraska, USA  
Angélica Ma. Corona, Universidad Nacional Autónoma de México, México  
Antonio Creao-Duarte, Universidade Federal da Paraíba, Brasil

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Antonio Cruz, Universidade de Sao Paulo, Brasil  
Antonio Santos-Silva, Universidade de Sao Paulo, Brasil  
Armando Estrada, Museo Nacional de Costa Rica, Costa Rica  
Armando Ruíz, Museo Nacional de Costa Rica, Costa Rica  
Art Borkent, Royal British Columbia Museum, American Museum of Natural History, Canadá  
Barry Bolton, The Natural History Museum, Reino Unido  
Barry Hammel, Missouri Botanical Garden, USA  
Ben Williams, University of Connecticut, USA  
Bert Kohlmann, Escuela de Agricultura de la Región Tropical Húmeda, Costa Rica  
Brett Ratcliffe, University of Nebraska, USA  
Brian Brown, Natural History Museum of Los Angeles County, USA  
Brian Eya, University of California, Berkeley, USA  
Carl Dick, Texas Tech University, USA  
Carl W. Schaefer, University of Connecticut, USA  
Carlos Molineri, INSUE-CONICET, Argentina  
Carlos Rivera, Universitat de Barcelona, España  
Carlos Sarmiento, University of Kentucky, USA  
Carlos Viquez, Instituto Nacional de Biodiversidad, Costa Rica  
Carol Shearer, University of Illinois, USA  
Carol Todzia, The University of Texas, USA  
Carolina Nieto, Instituto-Fundación Miguel Lillo, Argentina  
Caroline Chaboo, Cornell University y American Museum of Natural History, USA  
Catherine N. Duckett, Rutgers University, USA  
Charles Bartlett, University of Delaware, USA  
Charles Covell, University of Louisville, USA  
Charles Michener, University of Kansas, USA  
Charles H.F. Rowell, Zoologisches Institut der Universitaet Basel, Suiza  
Charles L. Staines, independiente, USA  
Charles O'Brien, Florida A&M University, USA  
Charles Triplehorn, College of Biological Sciences, USA  
Charlotte Taylor, Missouri Botanical Garden, USA  
Christer Hansson, Lund University, Suecia  
Christian Thompson, United States Department of Agriculture, USA  
Christopher Darling, Royal Ontario Museum, Canadá  
Christopher Lyal, The Natural History Museum, Reino Unido  
Christopher Starr, University of the West Indies, Tinidad y Tobago  
Chuck L. Bellamy, Natural History Museum of Los Angeles County, USA  
Claudio Barros de Carvalho, Universidade Federal do Paraná, Brasil  
Dalton Amorin, Universidade de Sao Paulo, Brasil  
Daniel J. Bickel, Australian Museum, Australia

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Daniel Hansen, University of Minnesota, USA  
Daniel Janzen, University of Pennsylvania, USA  
Daniel Ventura, independiente, España  
Danilo Brenes, Organización para Estudios Tropicales, Costa Rica  
David Adamski, United States Department of Agriculture, USA  
David Baumgardner, Texas A&M University, USA  
David Furth, Smithsonian Institution, USA  
David Grimaldi, American Museum of Natural History, USA  
David Kavanaugh, California Academy of Sciences, USA  
David L. Wagner, University of Connecticut, USA  
David McAlpine, Australian Museum, Australia  
David Smith, United States Department of Agriculture, USA  
David Wahl, American Entomology Institute, USA  
Deborah Neher, University of Toledo, USA  
Diane Ularuikka, Museo Filandés de Historia Natural, Finlandia  
Diomedes Quintero, Universidad de Panamá, Panamá  
Donald Lafontaine, The Canadian National Collection of Insects and Arachnids, Canadá  
Donald M. Wood, Agriculture and Agri-Food Canada, Canadá  
Donald R. Davis, Smithsonian Institution, USA  
Donald S. Chandler, University of New Hampshire, USA  
Donald Quicke, Imperial College London, Reino Unido  
Donald Webb, University of Illinois, USA  
Douglas Currie, Royal Ontario Museum, Canadá  
Douglas Daly, New York Botanical Garden, USA  
Douglas Stevens, Missouri Botanical Garden, USA  
Duane McKenna, Harvard University, USA  
Eduardo Carrillo, Universidad Nacional de Costa Rica, Costa Rica  
Eduardo Flores, Universidad Nacional de Colombia, Colombia  
Eduardo Galante, Centro Iberoamericano de la Biodiversidad y Universidad de Alicante,  
España  
Edward Riley, Texas A&M University, USA  
Edwin Dominguez, Universidad de Costa Rica, Panamá  
Egon Horak, Geobotanical Institute, Suiza  
Elena Korneyev, I. I. Schmalhausen Institute of Zoology, Ucrania  
Elizabeth Baloch, Karl-Frazens-Universitat Graz, Austria  
Erick Fisher, California Department of Food and Agriculture, USA  
Evert E. Lindquist, Agriculture and Agri-Food Canada, Canadá  
Evert Schlinger, The World Spider-Parasitoid Research Laboratory, USA  
Fernando Fernández, Instituto Alexander Von Humboldt, Colombia  
Fernando Fernández, The Field Museum of Chicago, USA

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Fernando Muñoz, Universidad de Antioquía, Colombia  
Fernando Pérez-Miler, Universidad de la República, Uruguay  
Flor Cascante, Organización para Estudios Tropicales, Costa Rica  
Floyd Shockley, University of Georgia, USA  
Francisco De Diego, Real Jardín Botánico de Madrid, España  
Francois Genier, Canadian Museum of Nature, Canadá  
Frank Almeda, California Academy of Sciences, USA  
Frank T. Hovore, Frank Hovore & Associates, USA  
Franz Krapp, Zoologisches Forschungsinstitut und Museum A. Koenig, Alemania  
Fred R. Barrie, Missouri Botanical Garden y The Field Museum, USA  
Fredric Vendl, State University of New York, USA  
Garrett Crow, University of New Hampshire, USA  
Gary Gibson, Biosystematic Research Institute, Canadá  
Geoffrey Easton, Harvard University, USA  
Geoffrey Hancock, University of Glasgow y National Museum of Scotland, Reino Unido  
Gerard Delvare, Centre de Cooperation Internationale en Recherche Agronomique pour le  
Developpement, Francia  
Gerardo Chaves, Universidad de Costa Rica, Costa Rica  
Germano Rosado-Neto, Universidade Federal de Paraná, Brasil  
Gerrit Davidse, Missouri Botanical Garden, USA  
Gerry Krantz, Oregon State University, USA  
Gino Nearn, Universidad de Florida, USA  
Giraldo Alayón, Museo Nacional de Historia Natural, Cuba  
Gitanjali S. Bodner, University of Arizona, USA  
Glavis B. Edwards, Florida State Collection of Arthropods, USA  
Grace Wong, Universidad Nacional de Costa Rica, Costa Rica  
Graham E. Rotheray, National Museum of Scotland, Reino Unido  
Gregory A. Dahlem, Northern Kentucky University, USA  
Gregory Courtney, Smithsonian Institution, USA  
Gregory Mueller, The Field Museum of Chicago, USA  
Gregory Thorn, University of Western Ontario, Canada  
Grube Martin, Karl-Frazens-Universitat Graz, Austria  
Gunnar Brehm, Universitaet Bayreuth, Alemania  
Gunilla Stahls-Makela, University of Helsinki, Finlandia  
Gustavo Gutierrez, Universidad de Costa Rica, Costa Rica  
Gustavo Hormiga, The George Washington University, USA  
Gustavo R. Spinelli, Museo de la Plata, Argentina  
Harrie Sipman, Freie University of Berlin, Alemania  
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Henry A. Hespenheide, University of California, LA, USA  
Henry Howden, Canadian Museum of Nature, Canadá  
Herb H. Neunzig, North Carolina State University, USA  
Herbert Levi, Harvard University, USA  
Ian Gauld, The Natural History Museum, Reino Unido  
Hortensia Carrillo-Ruiz, Universidad Autónoma de México, México  
Ihsan Al-Shehbaz, Missouri Botanical Garden, USA  
Imke Schmitt, The Field Museum of Chicago, USA  
Isidro Chacón, INBio, Costa Rica  
J. Bolling Sullivan, Smithsonian Institution, USA  
J. Mark Rowland, University of New México, USA  
Jack D. Rogers, Washington State University, USA  
Jacques Rifkind, Natural History Museum of Los Angeles County, USA  
Jade Savage, McGill University, Canada  
Jadranka Rota, University of Connecticut, USA  
James B. Whitfield, University of Illinois, USA  
James Coronado, independiente, Panamá  
James E. Coffey, independiente, USA  
James Lazell, The Conservation Agency, USA  
James Luteyn, New York Botanical Garden, USA  
James M. Carpenter, American Museum of Natural History, USA  
James Miller, American Museum of Natural History, USA  
James S. Miller, Missouri Botanical Garden, USA  
Jan Ove Rein, University Library in Trondheim, Noruega  
Janet Beccaloni, The Natural History Museum, Reino Unido  
Jason Cryan, New York State Museum, USA  
Javier Rodríguez, Fundación PROMAR, Costa Rica  
Jeffrey Cumming, Agriculture and Agri-Food Canada, Canadá  
Jeffrey Skevington, California Department of Food and Agriculture, USA  
Jens-Hermann Struke, independiente, Alemania  
Jens Prena, University Rostock, Alemania  
Jeremy Miller, Smithsonian Institution, USA  
Jerry Powell, University of California, Berkeley, USA  
Jesús Romero N. Instituto de Fitosanidad, México  
Jim Pecor, Walter Reed Biosystematics Unit, USA  
Joaquín Baixeras, Universidad de Valencia, España  
Joaquín Sánchez, Museo Nacional de Costa Rica, Costa Rica  
Joe Ammirati, University of Washington, USA  
Joe E. Eger, independiente, USA

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John Burger, University of New Hampshire, USA  
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John Jack Longino, The Evergreen State College, USA  
John Noyes, The Natural History Museum, Reino Unido  
John P. Schmitt, University of Illinois, USA  
John Pruski, Missouri Botanical Garden, USA  
John Rawlins, Carnegie Museum of Natural History, USA  
John Vargas, Organismo de Investigación Judicial, Costa Rica  
John Swann, University of Toronto y Centre for Biodiversity and Conservation Biology,  
Canadá  
Jonathan Coddington, Smithsonian Institution, USA  
Jorge Angulo, RADIOL,S.A., Panamá  
Jorge Gómez, Universidad de Costa Rica, Costa Rica  
José A. Rafael, Instituto Nacional de Pesquisas da Amazonia, Brasil  
José Fernández T., Universidad de Granma, Cuba  
José M. Ayala, El Mundo de los Artrópodos, Venezuela  
José M. Mora, Universidad de Costa Rica, Costa Rica  
José Navarrete H., Universidad de Guadalajara, México  
Joseph Fortier, University of Wyoming, USA  
Joyce Cook, Carleton University, USA  
Juan J. Morrone, Universidad Nacional Autónoma de México, México  
Juan Mata, University of Tennessee, USA  
Julia Checa B., Universidad de Alcalá de Henares, España  
Julieta Carranza, Universidad de Costa Rica, Costa Rica  
Julio Sánchez, Museo Nacional de Costa Rica, Costa Rica  
Karl-Henrik Larsson, Goteborg University, Suecia  
Katherine Schick, University of California, Berkeley, USA  
Kenji Nishida, Universidad de Costa Rica, Costa Rica  
Kevin N. Barber, Canadian Forest Service, Canadá  
Kevin Pitz, University of Kentucky, USA  
Kira Zhaurova, Smithsonian Institution, USA  
Kurt Pickett, American Museum of Natural History, USA  
Laure Desutter, Museo Nacional de Historia Natural, Francia  
Lawrence M. Kelly, New York Botanical Garden, USA  
Lawrence R. Kirkendall, University of Bergen, Noruega  
Leendert-Jan Van Der Ent, University of Wyoming, USA  
Leif Ryvarde, University of Oslo, Noruega

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Louis La Pierre, University of California, Los Angeles, USA  
Luciana Musetti, Ohio State University, USA  
Luciane Marinoni, Universidade Federal de Paraná, Brasil  
Lucinda McDade, The Academy of Natural Sciences, USA  
Luis F. de Armas, Instituto de Ecología y Sistemática, Cuba  
Luis Poveda, Universidad Nacional de Costa Rica, Costa Rica  
Lukasz Kaczmarek, A. Mickiewicz University, Polonia  
Lydie Arnaud, independiente, Francia  
Lynn Bohs, University of Utah, USA  
Mailyn Paniagua, Organización para Estudios Tropicales, Costa Rica  
Marcia Couri, Museu Nacional, Brasil  
Marcio Leitao B., Instituto Nacional de Pesquisas da Amazonia, Brasil  
Manuel A. Balcazar, Universidad de Colima, México  
Marc Epstein, Smithsonian Institution, USA  
Marc Pollet, KBIN, Bélgica  
Marc Soula, independiente, Francia  
María A. Marcos, Universidad de Alicante, España  
Marie Trest, University of Wisconsin, USA  
Mario Elgueta, Museo Nacional de Historia Natural, Chile  
Marius Wasbauer, California Department of Food and Agriculture, USA  
Mark Metz, University of Illinois, USA  
Martin Grube, Karl-Franzens-Universität Graz, Austria  
Martin Hauser, University of Illinois, USA  
Martín J. Ramírez, Museo Argentino de Ciencias Naturales, Argentina  
Mary Liz Jameson, University of Nebraska, USA  
Mathias Buck, University of Guelph, Canadá  
Mathias Jaschhof, Swedish Museum of Natural History, Suecia  
Matthew Nelsen, University of Wisconsin, USA  
Michael A. Ivie, Montana State University, USA  
Michael Balke, The Natural History Museum, Reino Unido  
Michael E. Irwin, University of Illinois, USA  
Michael F. Braby, Harvard University, USA  
Michael Gates, United State Department of Agriculture, USA  
Michael Grayum, Missouri Botanical Garden, USA  
Michael J. Sharkey, University of Kentucky, USA  
Michael Pogue, United State Department of Agriculture, USA  
Michael S. Caterino, Santa Barbara Museum of Natural History, USA  
Mick Webb, The Natural History Museum, Reino Unido

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Miguel Alonso, Museo Nacional de Ciencias Naturales, España  
Miguel A. Eligio, Universidad Nacional Autónoma de México, México  
Miguel A. Moron, Instituto de Ecología, México  
Miguel Simó, Facultad de Ciencias, Uruguay  
Milton Campbell, independiente, USA  
Neal Evenhuis, Bishop Museum, USA  
Neville Winchester, University of Victoria, Canadá  
Nico Franz, Cornell University, USA  
Norman D. Penny, California Academy of Sciences, USA  
Norman Woodley, United States Department of Agriculture, USA  
Olof Bistrom, Finnish Museum of Natural History, Finlandia  
Orlando T. Silveira, Museu Paraense Emílio Goeldi, Brasil  
Owen Lonsdale, University of Guelph, Canadá  
Patricia Gentili, Smithsonian Institution, USA  
Patrick Arnaud, AECFT, Francia  
Patrick Bouchard, Agriculture and Agri-Food Canada, Canadá  
Paul Freytag, University of Kentucky, USA  
Paul Hanson, Universidad de Costa Rica, Costa Rica  
Paul Johnson, South Dakota State University, USA  
Paul Lago, University of Mississippi, USA  
Paul Maas, National Herbarium of the Netherlands, Holanda  
Paul Marsh, independiente, USA  
Paul N. Thomas, The Field Museum of Chicago, USA  
Paul Scott, Santa Barbara Museum of Natural History, USA  
Pedro Lozada, Museo de Historia Natural, Perú  
Peter Chandler, independiente, Reino Unido  
Peter Cranston, University of California, Davis, USA  
Peter Adler, Clemson University, USA  
Peter Hibbs, Smithsonian Institution y University of Maryland, USA  
Peterson Lasaro, Universidade de Sao Paulo, Brasil  
Petter Jordan, University of Bergen, Noruega  
Pierre Escoubas, Institut de Pharmacologie Moléculaire et Cellulaire, Francia  
Pieter van Doesburg, Museo Nacional de Historia Natural, Holanda  
Philip D. Perkins, Harvard University, USA  
Piotr Naskrecki, Harvard University, USA  
Plubio González, Universidad de Panamá, Panamá  
Priscila Chaverri, The Pennsylvania State University, Costa Rica  
Rainer Thiele, Staatliches Museum für Naturkunde Karlsruhe, Alemania  
Ralph Harbach, The Natural History Museum, Reino Unido  
Ralph Holzenthal, University of Minnesota, USA

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Ralph W. Flowers, Florida A&M University, USA  
Ray Gagné, United States Department of Agriculture, USA  
Ricardo Ayala, University of Kansas, USA  
Ricardo Callejas, Universidad de Antioquia, Colombia  
Ricardo Rueda, Universidad Nacional Autónoma de Nicaragua, Nicaragua  
Richard Hanlin, independiente, USA  
Richard Vockeroth, Agriculture and Agri-Food Canada, Canadá  
Richard Westcott, Oregon Dept. Agricultura, USA  
Richard Wilkerson, Smithsonian Institution, USA  
Robert Anderson, Canadian Museum of Nature, Canadá  
Robert Bandoni, University of British Columbia, Canadá  
Robert Dressler, Missouri Botanical Garden, USA  
Robert Hamilton, Loyola University Chicago, USA  
Robert Luecking, The Field Museum of Chicago, USA  
Robert Raven, Queensland Museum, Australia  
Robert Roughley, University of Manitoba, Canadá  
Robert Wilbur, Duke University, USA  
Roberto Cambra, Universidad de Panamá, Panamá  
Robin Moran, New York Botanical Garden, USA  
Rogerio Bertani, Instituto Butantan, Brasil  
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