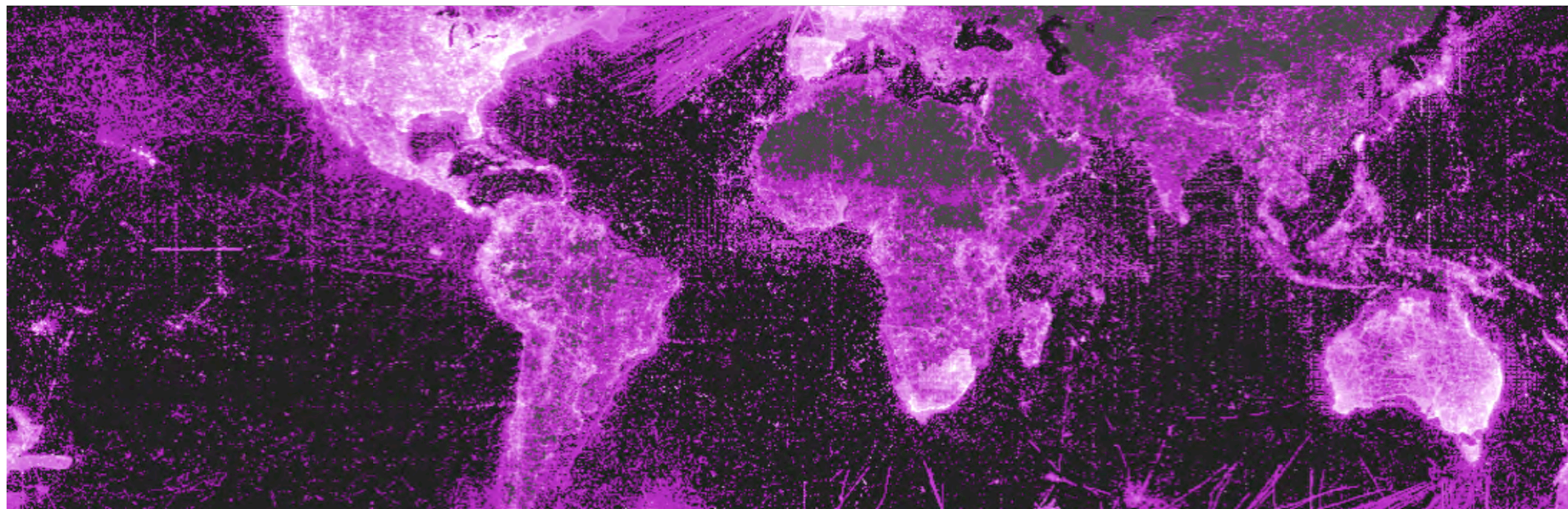




Global Biodiversity
Information Facility



Ministerio
del **Ambiente**



What expect while you are expecting to become a GBIF participant

View from a new Participant

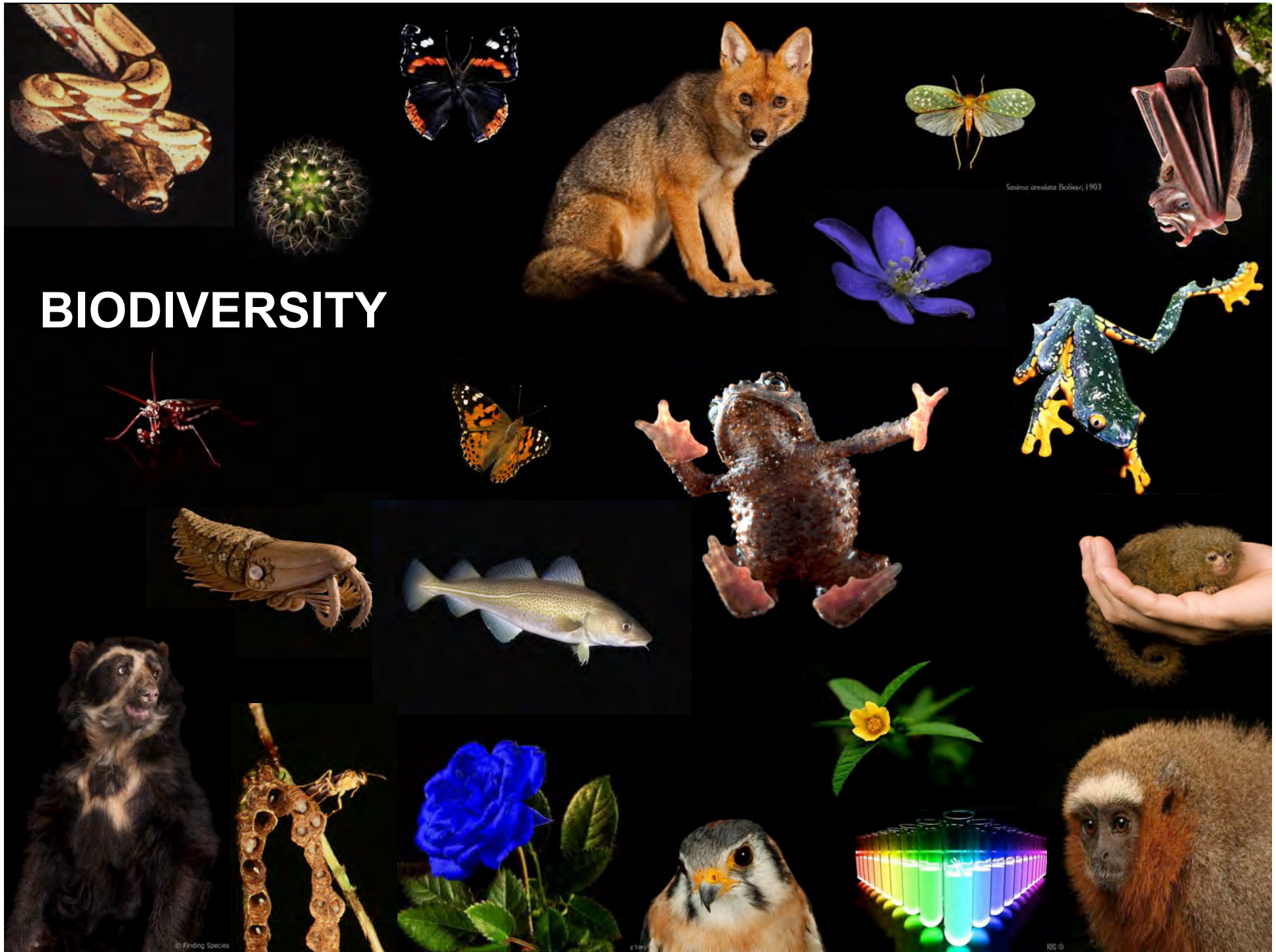
Néstor A. Acosta-Buenaño

26 OCT 2016

Ecuador: a small richest country



BIODIVERSITY



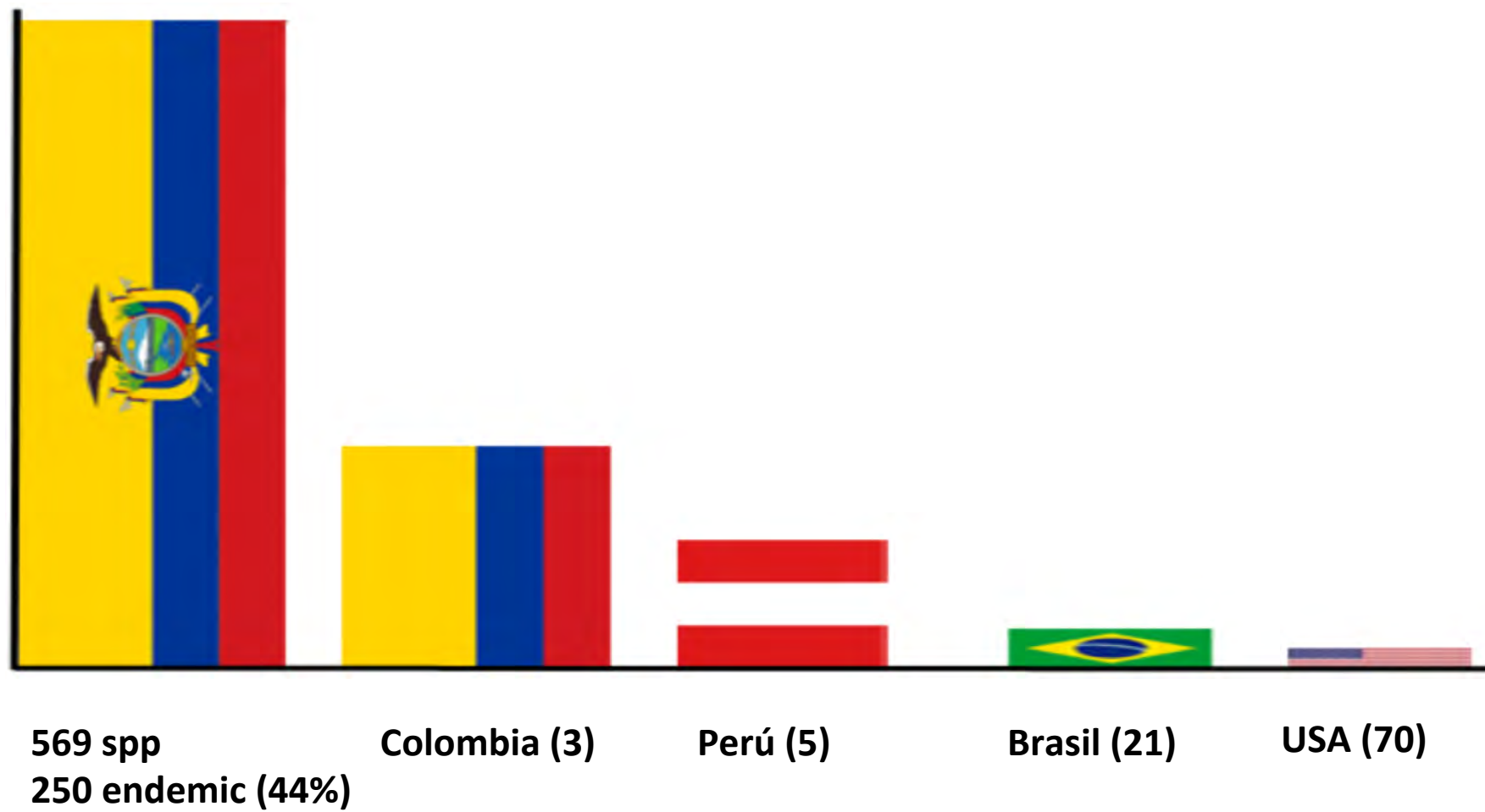
Saxima areolata Bolívar, 1903

© Finding Species

© 50px

JOS ©

Biodiversity: amphibian species per square kilometer



Biodiversity: Coast region



Biodiversity: Andean region



Biodiversity: Amazon region



Biodiversity: Galapagos Islands



Why to become a Participant in GBIF



Biodiversity in numbers



Looking for Treasures in a Megadiverse Country: Natural Collections in Ecuador

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Ecuador is located in northwestern South America, bordering the Pacific Ocean, between Colombia and Peru. Despite its small size, only 109,483 square miles, Ecuador is one of the most biologically diverse countries on Earth. Its location at the intersection of the equator, the Andes and the Amazon contribute to its high biodiversity levels. Furthermore, Ecuador is home to the remote Pacific islands of Galapagos, a very special place for evolution. Great Naturalists, e.g., Baron Alexander von Humboldt (1802-1803), Jacques-Alexandre Goujeaud Bonpland (1799-1805), and Charles Darwin (1835), have explored and collected in Ecuador, and many Ecuadorian specimens are located in the most important museums of natural history. In addition, Ecuadorian specimens are also held in many collections of local private and public institutions. Current holdings are unknown, because of lack of integration, and data is not available online. Data is also inaccessible to most biologists, policy-makers and the general public. These collections are real treasures for scientists, naturalists and nature lovers. Seventeen institutions (11 public and 6 private) currently store an estimated 2 million specimens: 750,000 plants, 13,975 birds, 87,215 reptiles and amphibians, 28,012 mammals, 153,647 fish, and 1,175,133 invertebrates. Our goal is to create an inventory of all the specimens at Ecuadorian institutions generating data about the utility, storage and maintenance. We seek to create a national digital database that documents existing biological collections in Ecuador. Improving our knowledge of biodiversity is fundamental for conservation and management.



The Ecuadorian collections reflect this diverse population and include all major groups of birds, mammals, reptiles, amphibians, insects and plants.

The Instituto de Ciencias Biológicas (ICB) has engaged in scientific field work and systematics research since 1980 and it was officially created in 1986. This collection is particularly rich in mammals and fish. In addition, it houses the only ichthyology collection with more than 10,000 specimens and the oldest mammal records (Cryptotis equatorialis, 1951 and Akodon jelskii, 1964). The Ecuadorian mammal collections (ICB, EPN and MCN) house over 82,000 specimens. Taxonomic coverage is broad with 70% of Ecuadorian species. The ICB collection contains over 2,000 (mostly Brazilian) type specimens, and approximately 10 specimens of endemic mammals. Marine mammals — those that are closely tied to life in the ocean — including whales, dolphins, seals and sea lions, are of particular interest to the Museum, which has one of the best assemblages of marine mammals.

The Ichthyology collections (EPN-MCN) house more than 30,362 catalogued specimens, dating back to the 1970s. Over 80% of the collection comes from the Amazon, making it one of the largest resources for this area. The collection is well represented with specimens from throughout the southeast and northwest of the Ecuadorian Amazon, especially with members of the Chancoso and Loricifera.

The Entomology collections (ICB, EPN, MCN, and UTE) hold 2,340,394 specimens, primarily of insects and arachnids, with small holdings of various other invertebrate specimens. The largest collection, ICB (n=1,100,000 specimens), is especially strong in Coleoptera (beetles), Lepidoptera (butterflies/moths), Hymenoptera (wasps, bees, and ants), and Diptera (flies). The ICB collection is representative of Ecuador, with additional specimens from South America. The Ecuadorian Biblioteca Ecuadoriana Aurelio Espinosa Poma has an important butterfly collection with more than 200,000 specimens. The Universidad San Francisco de Quito (USFQ) has smaller but important holdings of aquatic insects (EPT and Neuroptera). At the Museo de Ciencias Naturales (MCN), Entomology can be traced as far back as 1962 with the first Ecuadorian Collection of Insects by Francisco Carrasco.

At the Museo de Ciencias Naturales, bird holdings have grown into a major resource on birds of Ecuador (6,700 specimens). Its taxonomic coverage includes 80% of the Ecuadorian avifauna. Moreover, the collection is the repository for the specimens of a number of important ornithologists (e.g., one of the last new species for Sula leucogaster, Grallaria ridgelyi, and also specimens endangered and possibly locally extinct (e.g., Gypsohalia icteroides).

The Herbarium de la Universidad (UH) houses a research collection of nearly 682,743 specimens of native and naturalized plants of Ecuador. The Economic Herbarium consists of about 20,000 specimens of economically important plants of cultivated and wild origin. In addition, UHUT has one of the unique Xylotheque in Ecuador (1,850 specimens), it was officially created in 2005.

Ecuadorian collections contain a wide range of reptiles and amphibians. In the last decade, herpetologists have active collection-based research programs in Ecuador. Important collections of reptiles and amphibians, with particular strengths in the fauna of the Andes and the Amazon have been created and curated. The herpetology collections (EPN, MCN, FNGO and Lumbata) hold 40,407 specimens. This collection has a great representation of the Ecuadorian herpetology, including remarkable records like found rediscovered (MCN). Anolis arboreus and Anolis arboreus (Lumbata) with some incredible species like Hyacinthia princeps, Ophiopsilus princeps, Ophiopsilus princeps, among others.

Natural History Collections



Type specimens



Hidden Treasures



Ministerio del Ambiente

MECN

ESPE

USFQ

ICB

EPN

MCN

UTE

USFQ

ICB

EPN

MCN

UTE

USFQ

ICB

EPN

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Funding

SilvaCarbon

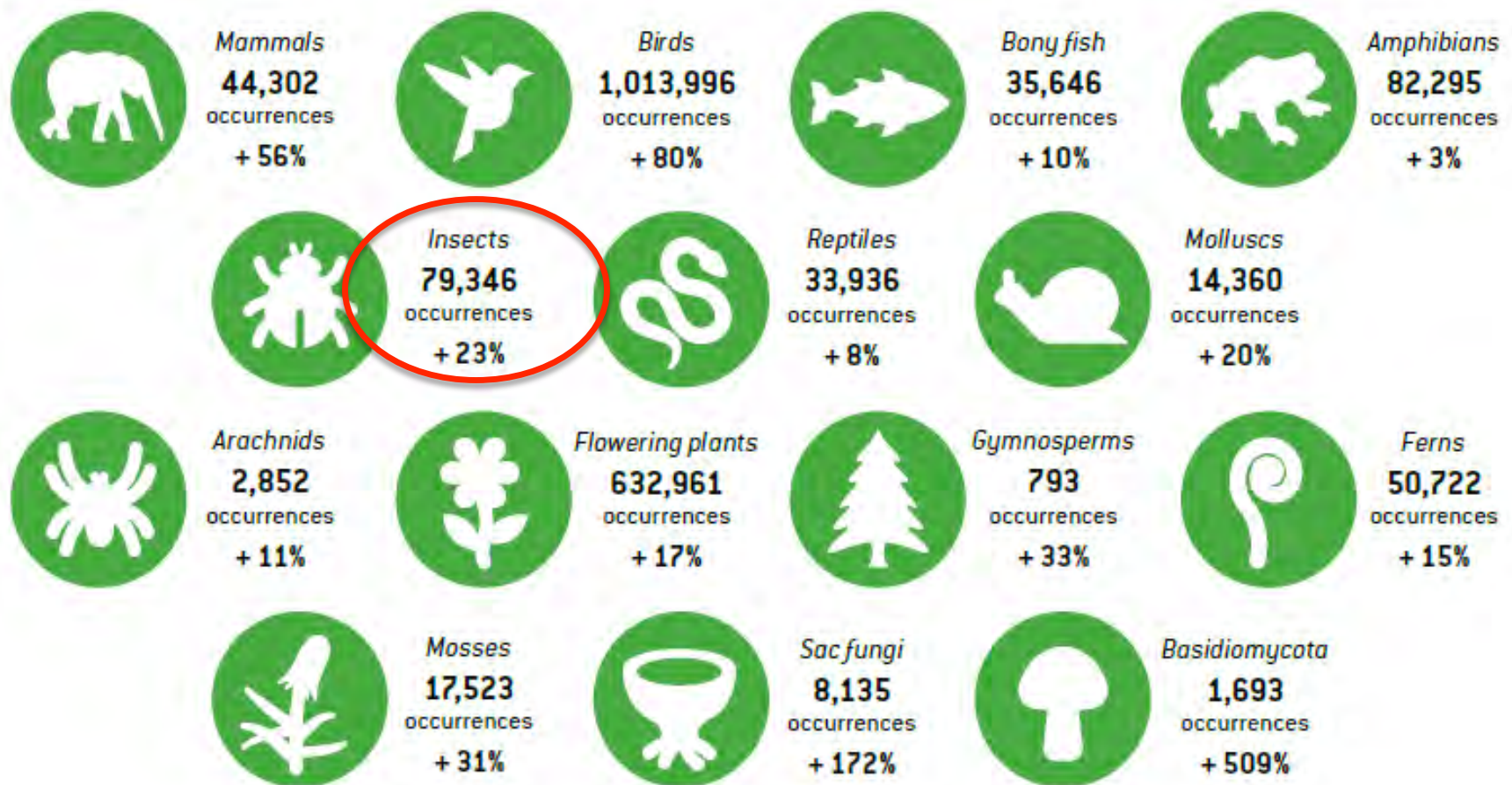
DyBio

GBIF: 33 countries publishing data about Ecuador

Country	Occurrences
United States	2,013,523
Denmark	141,077
Sweden	69,755
France	58,217
United Kingdom	54,951
Germany	43,187
Netherlands	24,110
Canada	22,467
Colombia	21,880
Brazil	20,414

TOTAL
2,224,395 records.

GBIF: Total data available about Ecuador



In 2008, Ecuador became the first country in the world to recognize legally enforceable Rights of Nature.

People have the authority to request the government, on behalf of the ecosystems, and the wildlife flora and fauna, to enforce actions to avoid violations of these rights.

Also Ecuador is promoting policies for regaining consciousness of the public, free and open accessibility of knowledge.

To date, some of the biological information of Ecuadorian museums and herbariums is being digitalized mostly due to personal efforts of Ecuadorian scientists plus a few institutional commitments.

For that purpose the government and international institutions need to secure funds.

Data bases must be organized, updated, and subject to permanent quality control.

Colomascirtus princecharlesi Coloma, Carvajal, et al. (2012)



MUITO OBRIGADO PELA ATENÇÃO