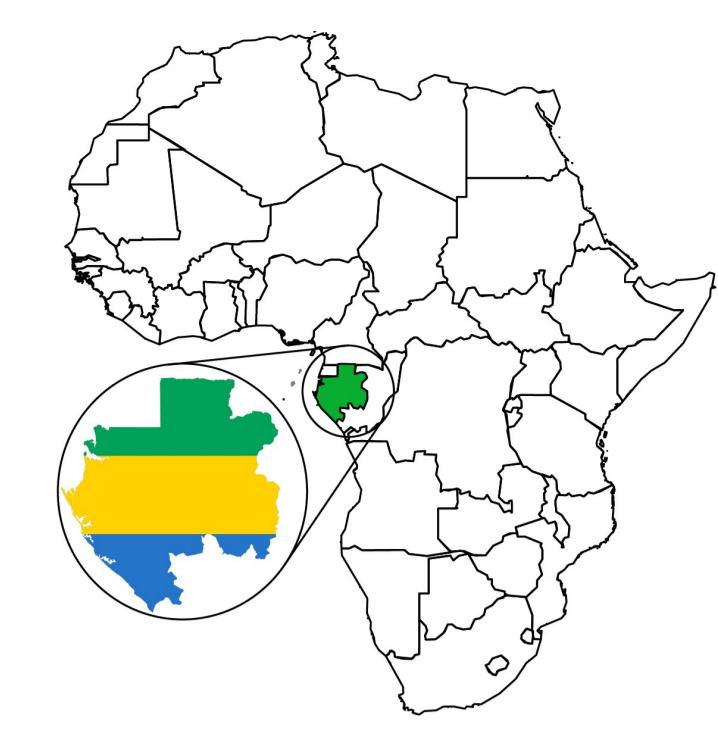


Creating a National Biodiversity Database in Gabon and the Challenges of Mobilizing Natural History Data for Francophone Countries



Elie Tobi¹, Géovanne Aymar Nziengui Djembi², Donald Midoko Ipanga³, Anna TC Feistner¹, Jean Félicien Liwouwou², Charlie Mabala⁴, Jacques Mavoungou³, Gauthier Moussavou¹, Linda Priscilla Omouendze², Edward Gilbert⁶ and Gregory FM Jongsma⁷⁻⁸



¹Smithsonian Conservation Biology Institute, Gabon, ²École Nationale des Eaux et Forêts, Gabon, ³Institut de Recherches Agronomiques et Forestières, Gabon, ⁴The Nature Conservancy Gabon Program, Gabon, ⁵Institut de Recherche en Ecologie Tropicale, Gabon, ⁶Arizona State University, USA, ⁷Florida Museum of Natural History, USA, ⁸University of Florida, USA

Language is a major barrier for researchers wanting to digitize and publish collection data in Africa. French-speaking regions of Africa (primarily Central/ West Africa and Madagascar) host some of the highest biodiversity on the continent and therefore are of great importance to scientists and decision-makers. Unfortunately, resources in French about digitization, data management, and publishing are lacking. This has hindered efforts digitization efforts in Africa and rendered these important collections effectively invisible. Producing relevant/applicable resources about digitization in French will help shine a light on these valuable natural history records and allow the data-holders in Africa to retain the autonomy of their collections. Awarded a GBIF-BID (Biodiversity Information for Development) grant in 2021, an international, multilingual network of partners has undertaken the important task of digitizing and mobilizing Gabon's vertebrate collections. This project stands increase the number of available specimen records on GBIF for Gabon by 40%. Additionally, the French resources we have developed about digitization and mobilization will help serve the Francophone museum community globally.

There are approximately 13,500 vertebrate specimens housed in five different institutions dispersed in the country:

- National School of Water and Forests, Cap Esterias, north of Libreville: mainly fish, Libreville (1953)
- Masuku University of Science and Technology, Franceville, southeastern Gabon (1986)
- Agronomic and Forestry Research Institute, Libreville (1976)
- The Tropical Ecology Research Institute, Libreville and Impassa-Makokou (1976)
- Smithsonian Institution Gabon Biodiversity Program, Gamba, southwestern Gabon (2001)
- The majority of specimens are fish (see Figure 1)

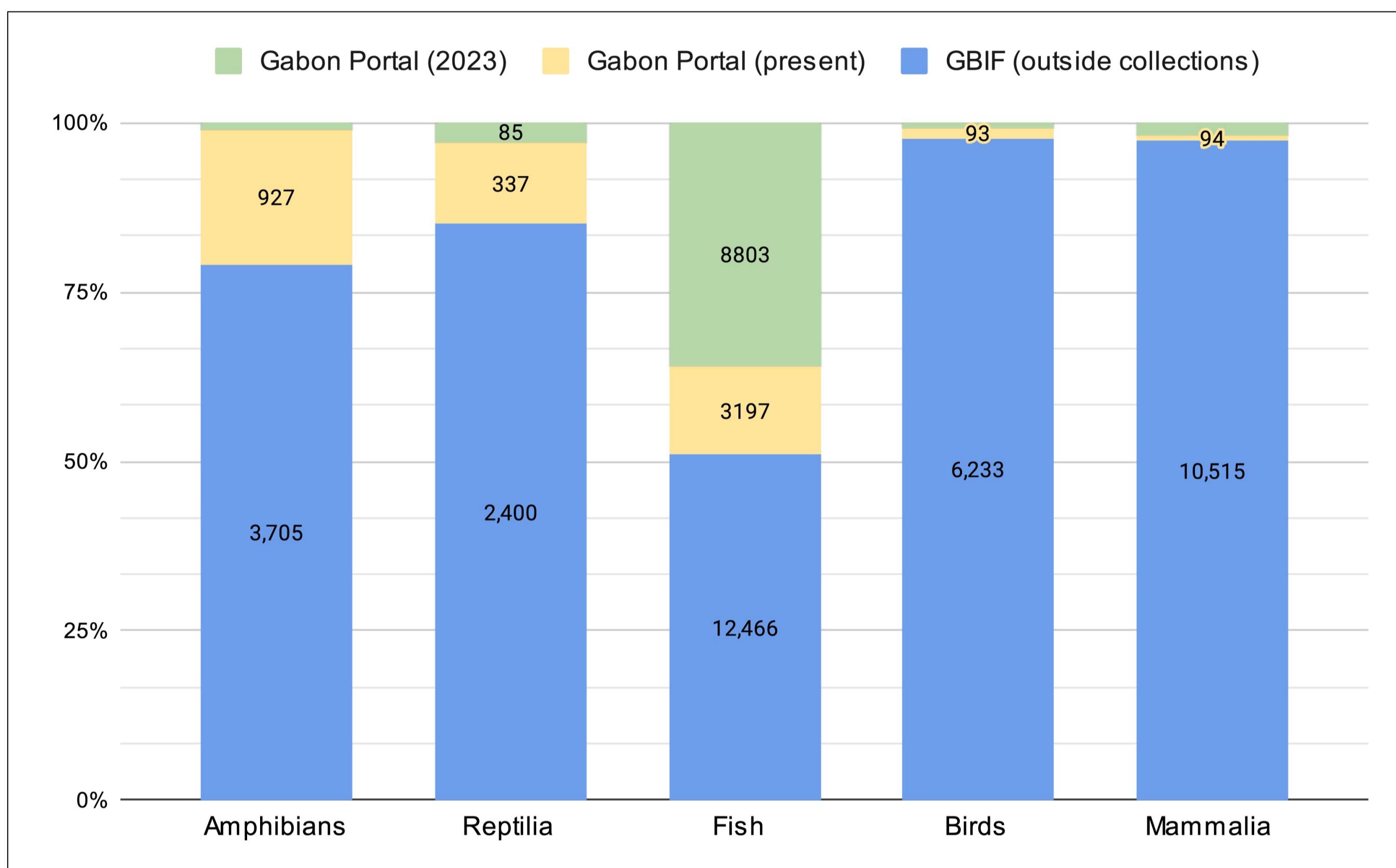


Figure 1. Specimens for Gabon in GBIF and contribution of this project. Blue bars represent all other collections available in GBIF; yellow bars represent specimen records we have added to date; green bars represent additional specimens that will be added by project's end in 2023.

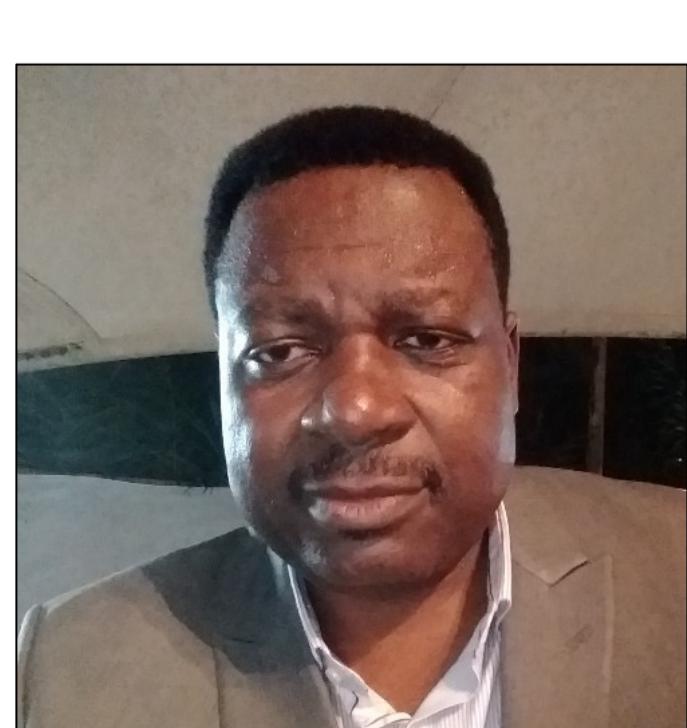


Figure 2. Some photos from the Smithsonian collection

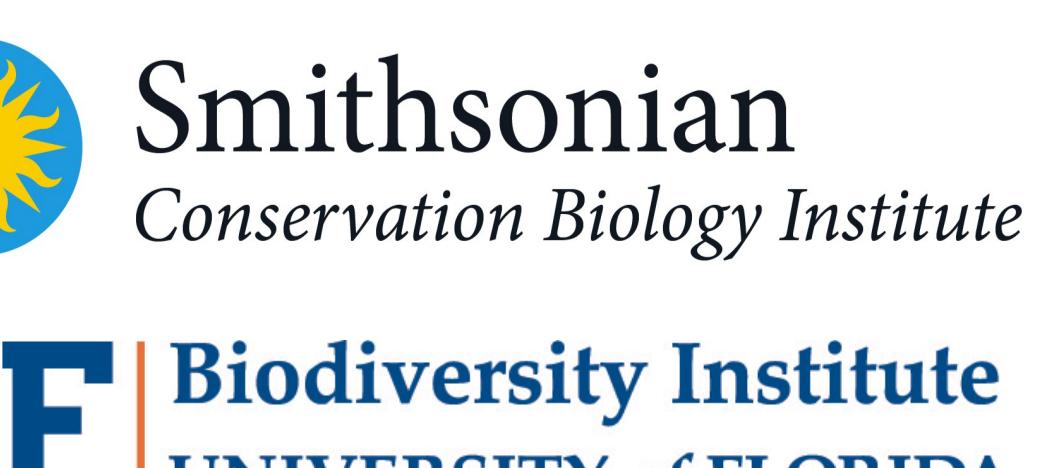
The digitalisation of specimen photos as part of this project will make a significant addition to the Gabon GBIF photo collection (see Table 1).

Table 1. Percentage increase in Gabon specimen photos contributed by this project

Taxa	GBIF	Portal	% increase
Amphibians	117	451	386 %
Reptiles	61	91	149 %
Fish	485	-	-
Birds	244	70	29 %
Mammals	6695	62	1 %



Elie TOBI Assistant Curator
Smithsonian GBP



This screenshot shows the homepage of the Gabon Biodiversity portal. The header features the title "Gabon Biodiversity" and navigation links for Home, Search, Images, Inventories, Dynamic Species List, and More Information. Below the header is a "Welcome TOBI!" message and a language selection dropdown set to English. A search bar labeled "Taxon Search" with a "Search" button is present. The main content area displays several images of Gabon's fauna, including a purple flower, a tree frog, a red duiker, a butterfly, and a gorilla. A text box provides information about the portal's purpose and how to contribute datasets.

gabonbiota.org

This screenshot shows the homepage of the Biodiversité du Gabon portal. The header includes the title "Biodiversité du Gabon" and navigation links for Accueil, Rechercher, Images, liste des Espèces, Listes Dynamiques, and Plus d'Information. A "Rechercher de Taxons" search bar is at the top right. The main content area features images of Gabon's flora and fauna, including a green tree frog and a red duiker. A text box welcomes visitors and provides information on how to contribute data to the portal.

The Gabon Symbiota portal also supports the mapping of specimen occurrences (see Figure 3)

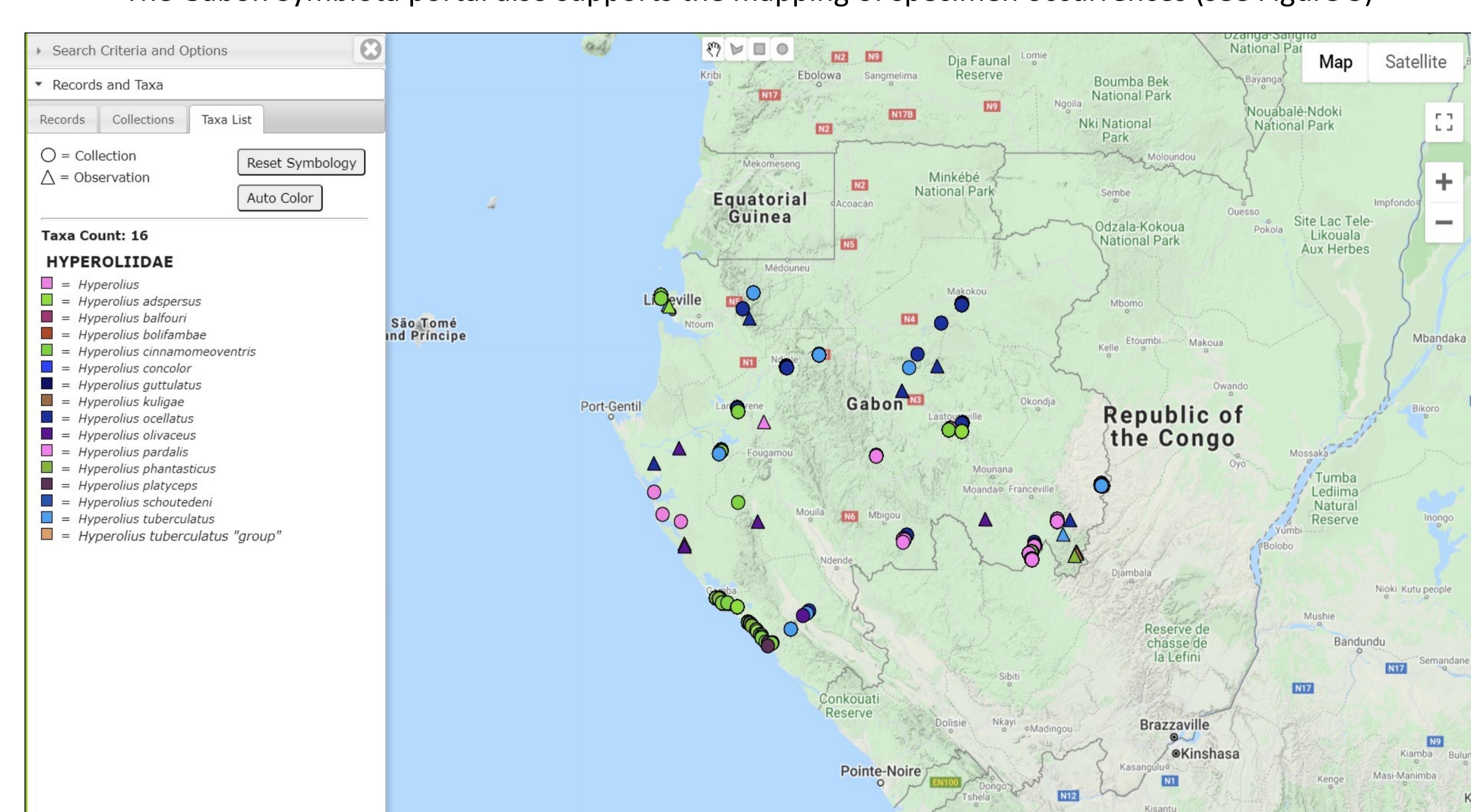


Figure 3. Map of observation and collection records of various species of Reed Frog (*Hyperolius*).

