



SINBIOTA 2.0 – BIOTA-FAPESP PROGRAM'S INFORMATION SYSTEM: PLANNING THE NEXT 10 YEARS

Carlos Alfredo Joly

Institute of Biology / State University of Campinas (Unicamp)



Translation of biodiversity data into standard metadata formats in the future SinBiota 2.0

For the last 10 years, SinBiota, the information system of the Biota-FAPESP Program, has served the community storing data, showing them in maps, and providing a common base for researchers in different areas to communicate and exchange biodiversity data. State administration has also used the system to support new laws and regulations. Now it is time to rethink the system, which has grown in an ad-hoc unstructured way, aiming at the support that will be needed for the next 10 years.

Usage of the system in certain conditions, such as for field work, for instance, were not initially anticipated by the original plan. In addition, system extensions to allow data exchange with modeling tools for species niches and climatic change scenarios, or integration with molecular data from GenBank, DNA barcoding, and other important data repositories were not initially envisaged.



MAIN RESULTS

The current project aims at the creation of a new specification of the SinBiota system that dares to include services and technologies on the verge of the research on information technology. These new services and technologies should guarantee the use and expansion of the system for the next ten years; support the availability of a larger amount of higher quality environmental data, oriented also to the educational and public administration sectors; provide more efficient sharing of data among BIOTA researchers; interoperate with international initiatives such as the Global Biodiversity Information Facility (GBIF); provide effective tools to assist researchers in finding relevant information amongst a large amount of environment data. The expected results at the end of this project are the composition of the specification (Reference Document) of the SinBiota 2.0 system and the implementation of a prototype that will replace the current system.

Deliverables produced in the first year of this research project:

- 1- Current SinBlota documentation (use cases, ERD document);
- 2- Biodiversity Information Systems studies (GBIF, ALA, and OBIS review report);
- 3- Technology Reviews (Cloud Computing, Database Scalability and Security, Microsoft Tools reports, Biodiversity Metadata, Modeling Tools Data Conversion, Multimedia Search, Social Network, Monitoring Networks, DNA Barcode BOLD System services);
- 4- Prototype Architecture;
- 5- Prototype Planning Documentation (project decisions);
- 6- Georeferential Maps Demo;
- 7- Data logging and Web statistics modules (prototype);
- 8- Taxonomy modeling (prototype);
- 9- System access and security features implementation report.

PRODUCTS/PUBLICATIONS

INTERNACIONAL CONFERENCES

Position paper "SinBiota 2.0: displaying biodiversity and environmental data from Brazil using bing maps". *Environmental Research Workshop*. July, 2010.

Invited paper "SinBiota 2.0: planning a new generation environmental information system". *Microsoft Research eScience Workshop*. October, 2010.

POSTERS

Poster "SinBiota 2.0: planning a new generation environmental information system". *Microsoft- FAPESP Environmental Science Workshop*. November, 2010.

Carlos Alfredo Joly

Instituto de Biologia
Universidade Estadual de Campinas (Unicamp)

Departamento de Biologia Vegetal
Caixa Postal 6109 – Barão Geraldo
13081-970 – Campinas, SP – Brazil

cjoly@unicamp.br
55.19.3521-6166 / 3521-6173