

# Workshop on Digital documentation: Linking biodiversity data, publications and images

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## FINAL ACTIVITY REPORT

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## 1. Executive summary

On April 13-17, 2015, the *Ibero-American Infrastructure for Biodiversity Information - I3B* carried out the workshop titled **I3B Workshop on Digital documentation: Linking biodiversity data, publications and images.**

The overall purpose of this workshop was to increase the capacity in Latin-American countries to digitalize and publish biodiversity scientific literature, images and multimedia objects, activities that today remain largely untapped in the region.

During the five-day workshop, the participants could exchange experiences and knowledge through the different thematic sessions that were developed. In the sessions, held in Belo Horizonte, discussed various aspects related to the digitization of biodiversity, since the capture of data or images, going through how to organize the work to how to publish resources and disseminate them. Reviewed different initiatives widely recognized internationally, such as the case of the Biodiversity Heritage Library (BHL), the Library Digital of the Royal Botanical Garden of Madrid or the projects carried out by CRIA. At the end of the technical sessions, participants presented the projects that were working, allowing a view of the status of biodiversity in countries like Chile, Mexico and Nicaragua. Thanks to this, sessions became a good forum for discussion and source of knowledge. Parallel to the workshop, a symposium was organized on the same theme, which further contributed to create awareness on the strategic importance of making these components of biodiversity information easily available for research and conservation in the region, and to provide basic knowledge on how to do it.

The workshop provided a good view of initiatives in the region, as well as strategic linkages with others outside the region (BHL, RJB's BibDig). It also was an eye opener for those interested in initiating their own digitalization projects, as various approaches with different ambitions and technological bases were presented; discussions with people involved in those enhanced the capacity building and networking components of the workshop. Some hands-on sessions were also included that further contributed to highlight problems and solutions.

Materials produced and used during the workshop are available online, as well as videos of the presentations.

Follow up activities were planned and Participants acquired the commitment to disseminate of results or to replicate the workshop in their respective countries.

## 2. Contact information

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<b>Role(s) in this project:</b>	Coordinator

## 3. Project summary

Scientific literature is one of the key sources for biodiversity information. Whereas data digitalization and publishing from collections is becoming more common and digitalization routines are expanding in

collections, biodiversity information from literature related to Latin-America, remain largely untapped. To address this problem the *Iberoamerican Infrastructure for Biodiversity Information I3B* carried out the **I3B Workshop on Digital documentation: Linking biodiversity data, publications and images**, focused on increasing the capacity in the region to digitalize and publish biodiversity scientific literature, images and multimedia objects. Emphasis is set to the own scientific production: national magazines and reference works, gray literature (theses, studies, and reports).

The main objective that was intended to achieve with this project was to increase the capacity in Latin-American countries to digitalize and publish biodiversity scientific literature, images and multimedia objects. To achieve this, it is essential to create a regional working group, with the ability to coordinate and cooperate in the development of initiatives related to the digitization of information on biodiversity. Different training activities, described in paragraph 3.1 (activities completed) have been developed to achieve this milestone.

Participants included 25 individuals from 12 countries (Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Spain, United States, México, Nicaragua, Uruguay and Venezuela) all connected to I3B network by their roles as GBIF nodes or coordination entities of biodiversity information national networks, plus key contributions from BHL. The efforts carried out in Brazil in this landscape - mainly the Flora Brasilensis or the Scielo project - make totally appropriate to rely on Centro de Referência em Informação Ambiental - CRIA for co-leading this project, which was complemented with the additional expertise from BHL. The speakers were CRIA staff; BHL collaborators; a representation from the Digital library of Royal Botanical Garden of Madrid and Spanish National Museum of Natural Sciences (CSIC) staff. All of them personal highly qualified and expertise in project and tools related with the matter of the workshop.

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### 3.1. Activities completed

Workshop carried out on April 13-17, 2015 in Belo Horizonte (Minas Gerais, Brazil), organized by Centro de Referência em Informação Ambiental (CRIA), INCT-Herbário Virtual da Flora e dos Fungos do Brasil (INCT-HVFF), Universidade Federal de Minas Gerais (UFMG) and GBIF Spain.

25 people from 12 different Latin American countries learnt and exchanged knowledge on different aspects of literature and multimedia digitalization, management and publishing. In some detail:

- 25 people trained on how to set up and implement literature digitalization and online publication projects.
- 25 people trained on how to best practices to publish images and other multimedia objects related to biodiversity in the scientific context.
- A set of educational materials (documents, tools, presentations and videos) available online to create further capacity, in the region or elsewhere (see paragraph 5: Projects deliverables).
- A platform to support a community in the region willing to coordinate and cooperate in the treated topics (<http://foro.recibio.net/viewtopic.php?f=26&t=138>)
- In order to improve and enhance the given training was carried out an evaluation of the activity via a short questionnaire of 9 open-responses (see paragraph 5: Projects deliverables). It was given to participants at the end of the sessions; the outcomes are shown in paragraph 6.
- Communication and outreach plan: it develops in different stages, each with different goals:
  - Prior to the workshop: The event began advertising months before its celebration through the i3B plataform, Gbif.Es twitter profile, different email list or forums and also through the communication channels of the partners, like SiB-Colombia, CYTED, or Secretaría General Iberoamericana-SEGIB.

- During the workshop: Social networks allowed us to broadcast the event live, obtaining greater visibility and impact; with this objective the hashtag [#TallerI3Bdocumentacionbiodiversidad](#) is created in Twitter.
- After the workshop: A piece of news was published in [the GBIF.ES communication portal](#) highlighting the most notable aspects of the event. This piece of news was also published in the [RECIBIO.NET](#) portal. This news was also sent to Gbits but it has not been published yet.

### 3.2. Ongoing and post-project activities

- Creation of an online community: currently as a mailing list and a [forum for communications](#) about digital documentation in biodiversity in Latin-American region.
- Long term activities:
  - An ongoing project to strength and grow the Virtual Library of Nicaragua: <http://www.bio-nica.info/Biblioteca/BIBLI.htm>
  - “eFlora de México”: project to digitize the Flora of Mexico to be carried out by CONABIO
  - Plan to enhance the GBIF Node of Chile as well as its data portal
  - Improvement of Atta System to publish and manage biodiversity information in Costa Rica
- Specific replication and dissemination activities carried out by each partner are detailed in Annex 1 in Spanish (the participants acquired the commitment to replicate and disseminate the contents of the workshop).

## 4. Project objectives

The main objectives of this project were:

- Increase the capacity in the region to digitalize and publish biodiversity scientific literature.
- Increase the capacity in the region to digitalize and publish biodiversity images and other multimedia objects.
- Foster the development of partnerships to make available biodiversity data and information (specimens, images, literature, etc.).
- Enhance the fitness for use of available data by linking occurrence, literature and multimedia.

## 5. Project deliverables

Besides the direct benefit obtained by y the participants in terms of knowledge acquired, contacts and sharing views and approached. Some other deliverables aimed to support these activities in the region and to facilitate workshop replication were put in place. These were:

A package of educational materials, have been prepared (documents, presentations and videos) and made available online. This includes videos and presentations in Spanish or in Portuguese.

The educational kit has been complemented with some software tools. These tools were used during the workshop:

- The Digital Library of Royal Botanic Garden (CSIC): An online information resource about botanical bibliography.
- Bibmaster: A database complete application to manage biodiversity projects. It's designed to make easier the compilation and management of taxa-level, specimen-level, nomenclatural and bibliographic information.
- Findit2DarwinCore: Is a powerful tool to index the scientific names in the contents.
- Name Parser: MS Access application to parse scientific names into their components.

Other available material is the survey that was developed to evaluate the success of the workshop. The results are analyzed in the paragraph 6.

## 6. Evaluation: findings and conclusions

Networks' evaluation and impact is very important for CYTED, so a framework to maximize and quantify it is already in place within I3B. For this I3B workshop a number of requirements and actions were triggered:

- Participants were requested to carry out dissemination and replication activities in their countries.
- An evaluation form for the workshop was prepared and requested, and then analyzed (please, see results attached below).
- A set of "Future actions" was produced at this I3B workshop, (see paragraph 8).
- A follow up and reporting mechanism is set for tracking (and requesting) dissemination and other post-workshop actions.

### Evaluation results:

#### a) POSITIVE ASPECTS:

- The participants consider that speakers were highly qualified, with full knowledge of the issues and tools exposed. Highlights their communication skills and willingness for discussion and resolution of doubts
- With respect to the course schedule, most agree that it has been well structured, complete and very relevant to the course objectives
- Active participation of students participating in discussions which demonstrates their interest in the subject
- Emphasize the opportunity to replicate the successful experiences of countries that have made progress in certain areas
- High sharing knowledge even outside the timetable of the course
- Tools and materials used excellent

#### b) NEGATIVE ASPECTS:

- Insufficient time dedicated to the exposition and discussion of student presentations
- Some logistical issues (inadequate room, poor internet connection)
- Low presence of host organization

## 7. Recommendations and lessons learned

Despite the workshop was set around national events such as "Reuniões de aviação e planejamento estratégico" "Redes Colaborativas e Documentação Digital sobre Biodiversidade na Iberoamerica", we had less than expected local (Brazilian) participants.

Ensuring that workshop is properly replicated and disseminated by participants is a contact sport: it is a task that needs to be explicitly considered in this kind of projects with sufficient time and resources allocated.

## 8. Future plans

As mentioned above a set “future actions” in order to maximize and expand the contents was discussed and defined during the workshop. A follows except:

- Communication and dissemination:
  - To disseminate and replicate the contents of the workshop was a commitment taken by all selected participants and a follow-up procedure will be set from the I3B coordination to ensure that these are carried out. These could be seminars, pieces of news, bulletins, etc. Some of these are:
    - <http://www.humboldt.org.co/es/noticias/actualidad/item/703-ev-humboldt>
    - [http://www.sibbr.gov.br/internal/?area=comunicacao&subarea=noticia\\_56](http://www.sibbr.gov.br/internal/?area=comunicacao&subarea=noticia_56)
    - <http://www.gbif.es/NoticiaDetalles.php?idNoti=550>
    - <http://www.recibio.net/videos-en-linea-del-taller-i3b-sobre-documentacion-digital-en-biodiversidad/>
  - Specifically, a piece for GBIFs has been sent for publication.
  - Participant’s agreement in promoting open software, open access approaches regarding Digital documentation tools and portals.
- Collaboration
  - Facilitation of bilateral or “on-the-side” collaborations that may arise from the contacts established during the workshop.
  - Create an online doc to compile on-going activities and initiatives related to digital documentations in the region (<http://www.recibio.net/expandiendo-la-red-iv/>).
  - An offer from BHL to support and provide “know-how” in digital documentation to projects and institutes in the region.

## 9. Signature of the project main contact point

Signed on behalf of the project partners



Signed: Francisco Pando de la Hoz

Date:  
Nov 24<sup>th</sup>, 2015

## Annex 1. Dissemination events

Replication and dissemination activities carried out by participants after the Workshop on Digital Documentation of Biodiversity (the participants acquired the commitment to replicate and disseminate the contents of the workshop). These activities are kept up to date at: <http://www.recibio.net/expandiendo-la-red-iv/>

### **Centro Nacional Patagónico (CENPAT) – CONICET (Argentina)**

Se ha informado sobre el taller en la reunión de la Comisión Asesora del Sistema Nacional de Datos Biológicos (SNDB) perteneciente al Ministerio de Ciencia, Tecnología e Innovación Productiva donde participan los principales referentes de Argentina de colecciones científicas y de las instituciones que las albergan.

Se publicó como noticia <http://www.intranet.cenpat-conicet.gob.ar/node/2560> en la cartelera del Servicio Centralizado de Documentación (SECEDOC) del CENPAT-CONICET y este modo se dio acceso a todos los materiales disponibles del taller a la comunidad científica, especialmente a curadores y bibliotecarios.

Materiales específicos de digitalización del taller se proveyeron, a solicitud del Node Manager de GBIF Argentina, para la elaboración de proyectos en el Museo Argentino de Ciencias Naturales Bernardino Rivadavia (MACN)

### **Museo Entomológico de León – Nicaragua**

Al regresar de Brasil se compartió la documentación del curso con la Dirección de Biodiversidad del Ministerio del Ambiente y con la Red de Reservas Silvestres.

Con la Red de Reservas tuvimos una reunión para planificar actividades, principalmente la presentación de la reunión de Brasil y la elaboración de conjunto de un proyecto de bases de datos, pero de momento no se ha materializado. Estamos en comunicaciones con el presidente de la Red y con el contacto técnico.

Con el InBio de Costa Rica estamos tratando de ubicar fondos para crear un nodo regional de GBIF, tenemos como socios al ZAMORANO de Honduras y las Redes de Reservas Privadas de Nicaragua y Costa Rica. Hasta la fecha no se han logrado fondos para arrancar.

Está en marcha un proyecto de reforzamiento de la Biblioteca Virtual de Nicaragua con la idea de hacerlo crecer, agregar literatura gris o publicaciones que solo tuvieron distribución muy local: <http://www.bionica.info/Biblioteca/BIBLI.htm>

Por el momento tiene alrededor de 4,000 documentos, todo está en pdf y faltan unos 3 o 4 mil pdf más para subir. El objetivo de la biblioteca es tener un sitio enfocado principalmente en documentos relativos a Nicaragua. Los conocimientos adquiridos en el taller serán de aplicación directa en este proceso.

### **Ministerio del Medio Ambiente (MMA) de Chile**

Se distribuyeron los contenidos al interior del Ministerio del Medio Ambiente, con la finalidad de apoyar la gestión en conservación y apoyar los procedimientos relacionados con información de colecciones.

Sin embargo, el real impacto de este Taller en el Ministerio de Medio de Chile y que estimamos tendrá un trascendencia a nivel nacional, se comenzó a fraguar a partir de la participación de Chile en este Taller. Actualmente el MMA-Chile está empeñado en reactivar e implementar el Nodo de Especímenes GBIF Chile, a la vez que su Portal de Datos de Especímenes que se colgará de la plataforma de información del Inventario Nacional de Especies de Chile.

Para esto, los conocimientos, metodologías y contactos adquiridos durante el Taller han sido fundamentales.

A la fecha tenemos un protocolo de gestión de información de colecciones biológicas bajo el estándar Darwin Core, bajo el cual estamos curando y sistematizando los más de 100 mil registros de especímenes con que contamos en el MMA. Paralelamente el Departamento de Tecnologías de la Información está desarrollando la parte de informatización del sistema de especímenes y portal de datos, donde se publicará la información gestionada bajo altos estándares de calidad de datos.

Esperamos que el primer semestre de 2016 podamos lanzar públicamente la plataforma del Nodo GBIF Chile y Portal de Datos de Especímenes, en un encuentro nacional de administradores de colecciones biológicas, investigadores y autoridades, instancia en la que se dispondrán y difundirán con mayor detalle los contenidos del taller realizado en Brasil, momento en el cual se reactivará el Nodo.

### **Instituto de Investigación de Recursos Biológicos Alexander von Humboldt – Colombia**

Se compartió la información en una pequeña reunión con el grupo del SiB Colombia. Se publicó una nota en el portal del Instituto Humboldt y en el de SiB Colombia sobre la participación de Colombia en el taller I3B – “Documentación digital en biodiversidad” en representación del Instituto.

<http://www.humboldt.org.co/es/noticias/actualidad/item/703-ev-humboldt>

La socialización principal de los contenidos del taller I3B está prevista para un webinar en 2016. Agenda preliminar disponible en:

### **GBIF Brasil – SiBBR**

Se publicó una noticia sobre el taller en el portal web del nodo brasileño de GBIF:

[http://www.sibbr.gov.br/internal/?area=comunicacao&subarea=noticia\\_56](http://www.sibbr.gov.br/internal/?area=comunicacao&subarea=noticia_56) y también en el Facebook institucional: <https://www.facebook.com/sibbr.gov.br>

### **Instituto Nacional de Biodiversidad (INBio) – Costa Rica**

Se organizó una sesión con la Organización para los Estudios Tropicales (OET) en la que se comentó sobre los temas tratados en el taller, dando énfasis a los tópicos que OET consideró prioritarios.

Adicionalmente, se compartió con esa institución todos los materiales. OET es líder en Costa Rica en el manejo de registros bibliográficos relacionados con la Biodiversidad del país y está en proceso de establecer el Sistema Nacional de Información Bibliográfica sobre Biodiversidad de Costa Rica (SNIBB).

Se realizaron cambios en el Sistema *Atta* para incorporar funcionalidad de consulta a los registros bibliográficos administrados por BHL, a partir de los servicios web que se nos presentó durante el taller. El servicio permite al usuario acceder a registros en BHL para una especie particular. La funcionalidad está disponible en el siguiente hipervínculo (se toma como ejemplo la especie *Inga vera*):

[http://atta2.inbio.ac.cr/neoportal-web/ ... 20vera/BHL](http://atta2.inbio.ac.cr/neoportal-web/...20vera/BHL). Atta es el sistema de información utilizado por INBio para administrar y compartir la información sobre biodiversidad de Costa Rica que administra y genera la institución.

Se ha informado del taller a lo interno de INBio y se circularon todos los materiales.



### **Dirección Nacional de Medio Ambiente (DINAMA) de Uruguay y Museo Nacional de Historia Natural (MNHN) de Uruguay**

Se han compartido con colegas del MNHN (responsables de colecciones científicas, biblioteca y colaboradores honorarios de la institución) las presentaciones del Taller I3B 2015. Estas acciones se desarrollaron a la interna del Museo a través de contactos puntuales y directos.

Tenemos aún pendiente la realización de un taller conjunto (MNHN-DINAMA), con Andrés Carvajales a efectos de replicar los contenidos del Taller de Belo Horizonte a un público más amplio y externo a nuestras respectivas instituciones.

### **Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO) – México**

A partir de los conocimientos adquiridos durante el taller se ha promovido el uso de tecnologías digitales para dos proyectos relacionados directamente con la Subcoordinación de Especies Prioritarias en los cuales estoy participando de manera directa:

El proyecto “Flora Arbórea de México” en colaboración con la Comisión Nacional Forestal para el desarrollo de un sistema de información que permitirá hacer búsquedas (contiene campos con información estructurada y atomizada de acuerdo al estándar de Plinian Core), generar fichas informativas de especies (que incluye sinonimia, descripciones, mapas, fotografías, estado de riesgo, etc.), e incorporará claves electrónicas de determinación, todo ello mediante una página web que será la interfaz con los usuarios.

El proyecto “eFlora de México”, que es la realización de la flora de México en formato digital. Esta iniciativa forma parte de los compromisos de la Estrategia Mexicana de Conservación Vegetal, en concordancia con la Estrategia Global para la Conservación Vegetal. Para este proyecto que apenas inicia se está pensando diseñar una plataforma que contenga campos con información estructurada y atomizada que sean compatibles con Plinian Core. Incluirá información de nombres, clasificación, descripciones, mapas y fotografías. Además se está proponiendo incorporar la información de distintos acervos como BHL, GBIF, JSTOR y otros. El proyecto contempla también el desarrollo de una página web.

El material del taller también se ha compartido con el equipo de trabajo de Catálogos de autoridades taxonómicas para que lo consideren en la elaboración de los catálogos taxonómicos de especies mexicanas.