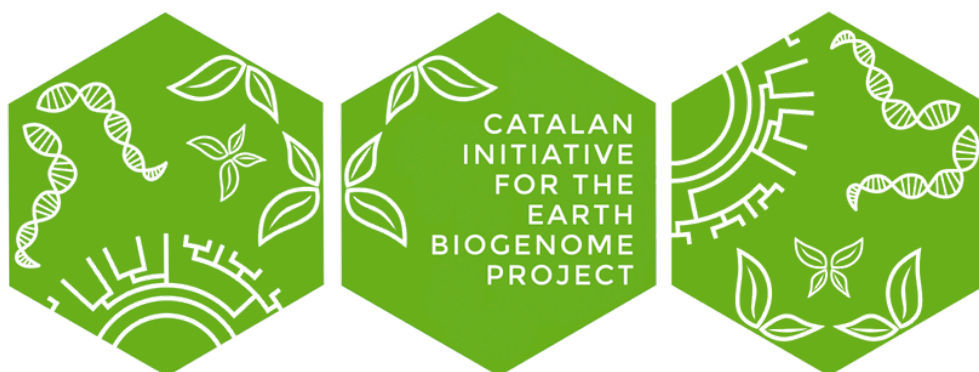


# CBP VOUCHERING AND BIOBANKING GUIDELINES



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## **1. INTRODUCTION**

Advancements in next-generation sequencing techniques have spurred the launch of numerous initiatives for the large-scale sequencing of reference genomes at the global, European, and Catalan levels. This progress also brings an increasing need to establish clear protocols for the preservation and appropriate vouchering of associated biological samples.

This document outlines the guidelines for archiving vouchers and other biological materials generated within the framework of the Catalan initiative for the Earth Biogenome Project (CBP). The goal is to ensure the traceability and replicability of projects, guaranteeing that specimens and genetic materials are preserved in public repositories accessible to the scientific community.

### **1.1. *Biobanking***

Biobanking is the practice of systematically and standardly preserving biological samples in repositories to ensure their long-term preservation and accessibility. In line with Earth Biogenome Project (EBP) guidelines, the CBP stipulates that biological materials used to generate reference genomes must be deposited in a public biobank or repository. This regulation enhances study transparency and replicability, as well as the preservation of the genetic diversity of the studied species.

## **2. WHAT SHOULD BE DEPOSITED?**

### **2.1. eVoucher**

An electronic voucher, or eVoucher, is a fundamental tool for documenting phenotypic characteristics—such as the coloration of individuals—which may be relevant for future studies. According to good biobanking practices, photographs of the specimen (preferably before processing) should be provided in the CBP portal (under the ORGANISM section) and linked to the samples deposited in the corresponding biobank to ensure traceability.

## **2.2. Voucher**

The specimen from which tissues were used to generate the reference genome must be deposited in a public repository. If the entire individual was used in the DNA extraction process, additional specimens should be collected during sampling (at the same location and preferably at the same time). These are called proxy vouchers or paragenophores and must be deposited in the chosen repositories.

## **2.3. Tissue for Biobanking**

Biobanking material refers to a tissue portion (preferably from the type individual, otherwise from a paragenophore) collected and stored for future sequencing. We recommend tissues to be snap-frozen immediately after collection and must never be thawed for subsampling or processing once they have been frozen. Other preservation methods may include: 95–96% non-denatured ethanol (never 100%), RNAlater or similar solutions, AllProtect/DNAgard Tissue, DESS (DMSO/EDTA saturated with salt) for marine organisms, or NaCl-CTAB buffer for plants, accompanied by silica gel dehydration.

The preservation method will depend on the specific needs of each project and the characteristics of the studied species. In case of doubt, contact the responsible staff at the repositories listed below.

## **Important Considerations...**

Ensure you have all the necessary permits for sample collection, including collection, export, and import permits, if applicable.

## **3. WHERE CAN I DEPOSIT THE MATERIAL?**

Following the Earth Biogenome Project guidelines, biological materials from CBP reference genome sequencing projects must be deposited in a public repository. Below are three CBP-affiliated institutions acting as repositories.

### 3.1. Repository for animals - Museu de Ciències Naturals de Barcelona (MCNB)

Institution: Museu de Ciències Naturals de Barcelona

Adress: Castell dels Tres Dragons, Passeig Picasso s/n, 08003, Barcelona

Responsible: Bernat Burriel

Contact: [bburriel@gmail.com](mailto:bburriel@gmail.com)

#### Steps to follow:

- I. Complete the donation [form](#), which must include:
  - a. Donor's personal data (name, surname, ID/passport, institution, postal address, phone, email)
  - b. Material to be donated (scientific name of species)
  - c. Collection date and location with decimal degree coordinates
  - d. Type of material (Voucher/proxy Voucher/Tissue [specify] + preservation method)
  - e. Specimen code
  - f. Possible notes
  - g. Electronic signature
  - h. Entry date and source (donation or photovoucher)
- II. Email the form to the responsible person, indicating that they are CBP samples.
- III. Send or personally deliver the materials to MCNB (Castell dels Tres Dragons, Passeig Picasso s/n, 08003, Barcelona).
- IV. The sample must be labeled with the species' scientific name, author, collection date, and location (including coordinates), the collector's name, and the identifier's name.
- V. Send the relevant collection permits to the responsible person.
- VI. Once the documentation is processed and the material digitized, MCNB will provide a voucher code, which must be cited in publications.

#### **Example:**

Material	Collection Date	Collection Location	Type of Material	Specimen Code
<i>Iberolacerta aurelioi</i>	18/04/2022	42.601600N 1.362211E	Voucher + ethanol 96%	CN19234
<i>Iberolacerta aurelioi</i>	18/04/2022	42.601600N 1.362211E	Tissue [heart] + snap-frozen	CN19234

### 3.2. Vascular Plant Repository - Herbari de l'Institut Botànic de Barcelona (HERBARI BC)

*Responsible:* Teresa Garnatje (CBP)

*Herbarium Conservator:* Neus Nualart

*Contacts:* [tgarnatje@ibb.csic.es](mailto:tgarnatje@ibb.csic.es), [nnualart@ibb.csic.es](mailto:nnualart@ibb.csic.es)

To deposit a voucher in BC Herbarium:

- I. Fill in the accession [form](#), including:
  - a. Entry date and source (donation or photovoucher)
  - b. Donor's personal data (name and surname, ID or passport, institution, postal address, telephone number, and email address)
  - c. Collection date and location
  - d. Species (listed as "genera" on the form)
  - e. Number of specimens
  - f. Observations
  - g. Electronic signature
- II. Email the form to the herbarium conservator, indicating they are CBP sheets.
- III. Send or personally deliver the herbarium sheets to IBB (Institut Botànic de Barcelona, Passeig del Migdia s.n. 08038 Barcelona). Sheets must contain a representative sample of the plant, properly pressed and labeled.
- IV. The label must include the scientific name, author, collection date and location (with coordinates), collector's name, and identifier's name.
- V. Provide the corresponding collection permits.
- VI. Once the documentation is processed and material digitized, BC Herbarium will issue a voucher code to be cited in publications.

### 3.3. Repository for Non-Vascular Plants, Algae, and Fungi – Centre de Documentació de Biodiversitat Vegetal de la Universitat de Barcelona (HERBARI BCN)

*Responsible:* Joan Vallès

*Contact:* [joanvalles@ub.edu](mailto:joanvalles@ub.edu)

To deposit a voucher in the BCN herbarium (including its sections BCN-Bryo, BCN-Phyc, and BCN-Myc), it is necessary:

- I. To send or personally deliver to the Centre for Plant Biodiversity Documentation at the University of Barcelona (Carrer de Baldiri Reixac, 2. Juliana Morell Building, 2nd floor; prior contact with the herbarium conservator, Roser Guàrdia, [rguardia@ub.edu](mailto:rguardia@ub.edu), is required) the herbarium sheets intended for deposit.
- II. The sheets must contain a representative sample of the non-vascular plant, alga, or fungus, properly pressed (or, in the case of fungi, dried) and labeled.
- III. The label must include the scientific name, subspecies or other taxon, the author, collection date and location (with coordinates), the name of the collector(s), and the identifier.
- IV. Provide the appropriate collection permits.
- V. Once documentation is processed and material digitized, BCN Herbarium will issue a voucher code to be cited in publications.