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## **EDIT principles for research loans between natural history collections**

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EDIT research loan policy for natural history collections)

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<b>Dissemination Level ( "X" in the relevant box)</b>		
<b>PU</b>	Public	
<b>PP</b>	Restricted to other programme participants (including the Commission Services)	X
<b>RE</b>	Restricted to a group specified by the consortium (including the Commission Services)	
<b>CO</b>	Confidential, only for members of the consortium (including the Commission Services)	

## Introduction and aim

The following document was drafted and revised by the EDIT WP3.1 Directors of Collections (DoC) group. It is based on the loan policies of 13 European natural history museums<sup>1</sup> participating within EDIT, prepared by a taskforce within the DoC<sup>2</sup>, and the result of discussions held in three DoC workshops and feedback from DoC member institutions on previous versions. On the basis of international agreements and regulations and general collections policies, the document aims at common principles for research loans within EDIT institutions that will facilitate access to collection material through loans whilst maximising their long term preservation. This is closely aligned with the EDIT aim to develop commonality of policy within an integrated taxonomic facility.

This document covers the loan of both morphological specimens and molecular collections such as frozen tissue and DNA for scientific purposes. It does not cover living collections, libraries and archives, loans for exhibition or loans for commercial purposes.

## Background

Loaning specimens or samples whether morphological or molecular has a number of clear benefits to both present and future users of collections:

- allows users to compare material,
- adds value to collections through annotation,
- avoids unnecessary travel.

However movement of loans inevitably puts collections at risk. These risks include:

- damage or loss through poor handling in post,
- confiscation due to failure to comply with changing laws on material transfer etc,
- damage due to irradiation etc on entry to country,
- “professional competition” i.e. individuals borrowing material to prevent others using it,
- damage or loss through lack of clear institutional responsibility.

Policies are designed to minimise these risks while facilitating responsible access. Inevitably through tradition and legal requirements, collections policies vary both between and within institutions and in some cases there are no policies. The Directors of Collections group agreed that there is an urgent need to improve and harmonize loan procedures in order to:

- prevent the loss of and damage to collections,
- guarantee transparency including traceability of collection items i.e. where are they, who is responsible for them, and what are they being used for,
- ensure that collections on loan will be managed to the same quality standards and rules in all institutions,
- encourage alternatives to loans where possible such as:
  - digital images, remote microscopy, etc,
  - subsidized collection visit (e.g. through SYNTHESYS),
  - label information through databases.

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<sup>1</sup> MNHN Paris, NHM London, NNM Leiden, ZMA Amsterdam, MfN Berlin, NBG Brussels, RBINS Brussels, RBG Kew, IPAN Krakow, NHN Leiden, SMN Stuttgart, RMCA Tervuren, BGBM Berlin

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## Scope of this document

This document is a proposal for common principles for research loans between natural history collections for adoption by the EDIT consortium. After the termination of EDIT this document will be updated and, if necessary, revised before it will undergo again the procedure of adoption by the institutions. In the future it will hopefully expand to an international standard.

Furthermore the DoC is working on a more comprehensive document containing guidelines and a model policy for research loans to assist institutions in developing their internal organisational policies.

## Definition of terms

### *Institution*

In this context “institution” refers to a museum, botanical garden or university department holding natural history collections that has a common governance. For instance a geological museum, a zoological museum and a herbarium within the same university would be considered as three institutions unless they had a clear, common, overarching management structure for their collections.

### *Material vs. specimen*

Material is a collective term for a set of specimens and any other associated items sent on loan. Specimen relates to a single unit of biological or geological origin with associated data such as provenance, collecting date, collector, etc.

### *Principle*

In this context a principle is an action or way of working that the signatories agree to continue or put in place within an agreed time period.

## General policy statements

As a matter of general collections policy the signatory institution is committed to the following:

1. Endeavouring to follow relevant national ethical codes for museums with reference where possible to the ICOM Code of Ethics for Museums.
2. Abiding by all international and national agreements governing the transfer of biodiversity specimens and products such as CBD, CITES and other agreements on access and benefit sharing, e.g. the Bonn Guidelines<sup>3</sup>.
3. Having collections management policies that will meet the requirements of any agreed European or national accreditation standards wherever possible.
4. Having all systems for storage, managing, and archiving information relating to loan transactions that will comply with agreed standards for the documentation of items e.g. SPECTRUM.
5. Complying where necessary, with dangerous goods regulations (i.e. IATA) governing specialised transportation of material.

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<sup>3</sup> See <http://www.cbd.int/abs/bonn.shtml>

## Key principles

In line with the general principle of maximising access to our collections the institution agrees to the following.

1. All specimens are available for research loan.
  - However, in any circumstances the institution reserves the right to refuse to lend any material within its collection at its discretion. The reasons for refusal should be transparent and may include excessive cost and unacceptable risk to items such as type and figured specimens, extinct (recent) species, specimens of high historical significance, and delicate or hazardous materials etc.
2. There will be no charge for research loans e.g. packing materials, postage, and staff for the signatories.
  - Charges may be made for repairs to or replacement of damaged specimens, for specialist packing, treatment or for any unusual or exceptional means of carrying.
3. The institution in which the loan (or material associated with the loan e.g. documentation) is to be housed and used must in all respects be safe, secure and conform to the recommendations and requirements of the lending institution.
4. Material sent on loan will only be used for research, not for commercial purposes without prior agreement.
5. The borrowing institution accepts that title to and ownership of the loaned items remains with the lending institution at all times.

## Morphological collections

### *Material available for loan*

- Only an agreed proportion of the institution's holdings of a collection unit, e.g. species or samples from one locality, will normally be sent on loan at any one time.

### *Loan requests*

- Material will be sent to (non-profit) institutions with natural history collections and staff responsible for collections management (including universities, if they can comply with the conditions within this document). In exceptional circumstances loans will be made to individuals at private addresses, but then only under stringent additional terms and conditions as defined by the lending institution.
- Only approved borrowers<sup>4</sup> can borrow specimens.
- Responsibility for the borrowed specimens rests with the institution in which they are kept or in exceptional cases with individuals at private addresses (see above).
- Requests for loans should state the names of the researchers on whose behalf they are made by the borrower, together with the scope of the work contemplated, and intention of publication.
- It is expected that all signatories will work towards the following standards for management of loans within an agreed time frame:
  - Loan requests are preferably submitted to a central institutional or departmental web address or as an interim to (a) designated person(s) as the lending institution defines.

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<sup>4</sup> Approved borrowers must be bona fide researchers; in case of postgraduate students, postdoctoral researchers, emeritus and retired staff, honorary or adjunct staff etc request must be made through their supervisor, mentor, or responsible staff in charge, preferably a single person of position such as the head of collection management.

- As much information as possible should be given when requesting items for loan e.g. registration numbers and synonymy.
- Details of all incoming loans must be recorded electronically to enable tracking all material entering as loans centrally or at least at department level through a single contact point.
- Forwarding of loans to third parties is not allowed without prior written approval of the lending institution<sup>5</sup>.

### ***The loan term and loan extensions***

- Normally, the maximum initial period for research loans is 12 months. If approved for extension, the renewal period will be for 6 to 12 months with the possibility to extend twice; the maximum loan duration is therefore 3 years.
- In some circumstances research loans will be approved for an initial period of up to 3 years, e.g. for comprehensive revisions or PhD studies, when sufficient explanation for such a duration is given. Such loans can be extended for another 2 years up to a maximum loan duration of 5 years.
- When applying for an extension, the reason behind this extension has to be made clear in the application, including a scientific progress report on the work conducted so far and the work that still has to be done.
- Application for extension must be submitted well in advance, at least a month before the end of the current loan agreement.

### ***Photos and copyrights***

- Taking and publishing photos of material on loan is only allowed after written approval<sup>6</sup> by the lending institution.
- Reference to photos of specimens on loan must be forwarded to the lending institution and linked to the objects, e.g. in separate letter or in a collection database according to guidelines provided by lending institution.
- Photos will become available to the owning institution.

### ***Restrictions***

- No changes to original labels are allowed.
- No changes to specimens or any other material are allowed without permission (including pedestals/armatures, sheets, etc. to which the specimen is fixed).
- DNA or tissue sampling from specimens on loan is only allowed after approval by the lending institution. If approved, the principles for molecular collections apply (see below).
- Annotations by the borrower should not be permanently attached but provided otherwise, preferably electronically or by determination slips, labels or other hard copy means.
- If an object is damaged, the owner must be informed immediately, no repairs are allowed without consultation with the owning institution.

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<sup>5</sup> The approved borrower undertakes to ensure that the loaned items shall only be kept at their host institution unless specific permission has been granted by the appropriate department to allow the item to be moved to another locality.

<sup>6</sup> Approval to the borrower to make photographs is not same as transfer of copyright. Copyright must therefore be part of loan agreement. The photographer (if it is the borrower) has to be mentioned in case of publication of illustrations.

***Non-DNA destructive sampling e.g. dissections of insect genitalia, flowers, geological samples, etc***

- Non-DNA destructive sampling by the borrower is only allowed after approval by the lending institution.
- Unused fragments of specimens etc. are the property of the owner and must be returned in an appropriate capsule etc and clearly labelled.
- If destructive sampling leads to other products (such as slides or geological objects) and the borrower is allowed to keep products, the institute of origin has the right to ask for duplicates.
- When there are multiple requests from different borrowers for destructive sampling of the same material only one application may be approved, but all applicants will be informed and encouraged to collaborate.

***Acknowledgements and feedback***

- Annotations or data of collection material made digitally available by the borrower should become available to the lending institution.
- The lending institution must be acknowledged using the official name in publications arising from research on their material.
- Reference to specimens in publications should where possible be through their unique identifiers such as registration numbers, collectors numbers etc
- Publications arising from research on borrowed material are to be sent to the lending institution (preferably as pdf).

***Housing, security, environmental conditions, packaging & transport***

- Loans will only be sent to institutions who have specified the way the borrowed specimens will be disinfested upon receipt. This report is needed only once and will be applicable to all future loans unless changes to disinfection are made. The protocol must be acceptable to the lending institution.
- Preferably, loans are to be returned in the original packing.
- In exceptional circumstances e.g. fragile specimens, the institutes involved must agree beforehand on the means of transport, but it is the owner who decides. The lending institution can request to return the loan by an official carrier company, by registered mail or e.g. personal transport.
- Confirmation that the loan has been received and in good order has to be sent upon receipt. The borrower also has to inform the lending institution when the loan is to be sent back.

***Failure to comply with the terms & conditions imposed***

- In the case of failure to comply, the loaning institution shall contact (in writing) the borrower and the borrowing institution and request that the situation is rectified immediately.
- Following the above, if the approved borrower still fails to comply with this written request, the lending institution shall be entitled to terminate the loan and recover the loaned items immediately.
- If the lending institution is forced to terminate (temporarily) the loan it may apply sanctions to future interactions with both the borrower and the borrowing institution.

## **Molecular collections**

Molecular collections (see appendix for definition) form a discrete group of collections not only in the technical expertise required to set them up, manage and develop them but also in their housing. Specific statements are included below that apply to these collections.

### ***Loan requests***

It is expected that all signatories will work towards the establishment of a coordinating mechanism for molecular loans, e.g. a ‘Specialist Molecular Curator’ or ‘Molecular Advisory Panel’ to:

- advise and confirm feasibility of success for the destructive sampling loan request for molecular work (as supported by evidence of past successes for the molecular processes intended on application form);
- assess specimen/sample status to minimize damage, over-use of sample and impartially prioritize loans in the case of multiple identical requests, especially from type, extinct or rare specimens, informing and inviting collaboration between all researchers involved;
- review exceptional circumstances e.g. a request which will reduce the original sample to nothing remaining;
- suggest the use of the on-site facilities of the institution of origin (molecular laboratories and sequencing facilities) for either visitors or their own staff to perform the destructive molecular sampling if the specimen or sample is too precious, fragile, sensitive (rare/endangered, CITES etc) to send away.

### ***Obligations of the applicant for molecular loans***

- All remaining samples from the original loan material for destructive sampling must be returned: DNA/RNA/protein/metabolite/lipid etc extractions, and if requested PCR products, sequencing reactions, and direct copies of sample data including sequence data. If it is not possible to return these items the applicant must inform the lending institution.
- A storage compatibility check guarantee in writing is required for any molecular collections to ensure that appropriate matching storage conditions are used in the borrowing institution.

### ***Acknowledgements and feedback for molecular collections and products***

- The applicant must notify the relevant department of publications arising from the destructive sampling of the specimens or samples and will be asked to provide copies including acknowledgement of institution of origin in all subsequent publications, GenBank numbers etc.
- In the case of DNA studies the institute of origin must be informed of any data sent to GenBank e.g. object accession number.
- Any data sent to GenBank should be linked to the original specimen and accession or similar unique identifier.
- Reporting the results to the owner is compulsory, including negative (no) results.

### ***Intellectual property rights/property rights for molecular collections***

- The Intellectual Property Rights (IPR) of original genomic DNA, RNA, protein extractions, progeny and non-modified derivatives lies with the institute of origin; hence forwarding any part of these to third parties will require prior permission from the lending institution and mutually agreed terms, as defined by a material transfer agreement (MTA).

- If samples are sent to the applicant, the institution's research loan policy and any associated loan terms and conditions apply. The applicant will sign and return a receipt to acknowledge the arrival of the material and agree to the terms and conditions.

***Warranties for molecular loans***

- The lending institute is not liable for failures in any molecular analysis (DNA extraction, PCR product, sequencing reaction, etc).
- The lending institute makes no warranties as to the safety of the material; the material is experimental in nature and must not be treated as if it is free from contamination. The recipient assumes full responsibility for complying with the recipient nation's quarantine and bio-safety regulations and rules as to import or release of genetic material. However, loan shipments from the lending institute containing known contaminants and/or biohazards will be accompanied by paper declarations and supporting best practice documents for molecular work in the light of these contaminants.

## Appendix: Molecular collections

### Definition

Molecular collections/samples are intended specifically for molecular research

This includes:

### Samples/Specimens

- deep-frozen specimens or tissues in liquid nitrogen (-196°C)
- frozen tissues in freezers (-80°C)
- alcohol-preserved specimens specifically collected for molecular work or tissues (-20, +4, +16°C)
- silica-dried material (RT)
- lyophilised/freeze-dried material (RT)
- samples on FTA cards (RT)
- viable cell lines cultured from fresh tissues (cryo banks).

### Products

- extracted genomic/mitochondrial/chloroplast DNA in water or buffers (-20°C)
- extracted RNA (-80 °C)
- genomic / expression (cDNA) phage / BAC libraries in bacterial culture (-80°C)
- expression (cDNA) and genomic libraries on FTA cards (RT)
- DNA Sequencing reactions
- PCR products
- protein and amino acids
- Mixed Environmental Genomic DNA / RNA / protein and amino acid survey samples
- historical contaminant sample series
- lipid and metabolite sample series.
- returned material from all destructive sampling loans.
- unforeseen future analyses