

# DENVER BOTANIC GARDENS

Kathryn Kalmbach Herbarium of Vascular Plants (KHD)  
Sam Mitchel Herbarium of Fungi (DBG)  
Arthropod Collection (DBGA)  
1085 York Street Denver, CO

## **DESTRUCTIVE SAMPLING OF HERBARIUM SPECIMENS Policy Statement**

Herbaria are cared for and maintained in conditions intended to preserve and extend their physical integrity. The Gardens seeks to manage and mitigate this risk while balancing the need for reasonable access. Destructive sampling will be approved on a case-by-case basis by the Head Curator or Director of Research and Conservation. No material may be removed from specimens without prior consent of the Head Curator or Director of Research and Conservation. The Gardens reserves the right to refuse to provide samples from collections in its care for any reason, at its sole discretion.

Destructive sampling is allowed only for supporting scientific research. Samples taken from herbarium specimens are not available for commercial gain, for example bioprospecting endeavors, screening for genes of agricultural interest, or any other potential commercial application. The researcher must have made a diligent and good faith effort to obtain appropriate material for extraction from other sources (field collections, horticultural sources, other herbaria, etc.). The researcher must have experience with laboratory techniques and characteristics of their group to insure a reasonable probability of success with the material.

As a condition of release of any material, each applicant agrees to abide by the conditions stated below.

- 1.** Leaf material, pollen, spores, fungal tissue, flowers, fruits, etc. may be removed from specimens only when adequate material is available. Care must be taken not to damage the scientific value of the specimen.
  - a.** If material is available in packets, this material should be used first.
  - b.** Only the minimum amount of material needed may be taken.
- 2.** Material may not be removed from type collections, historical specimens, or from taxa represented in the herbaria by less than three collections, except in rare instances, then only by herbaria staff.
- 3.** Only partial-body destructive sampling is permitted for arthropod collections. Samples must be removed in a manner that will not degrade the scientific value of the specimen. The sample must be the smallest amount that is required for the technique being used. Any unused portions must be returned to Denver Botanic Gardens.
- 4.** Each specimen must be annotated indicating the material removed, the nature of the study, the researcher's name and institutional affiliation, the date and identification of the specimen accepted by the researcher.
- 5.** Material may not be removed from a specimen for a second time if the nature of the study is the same. Exceptions may be made when there is additional leaf material or fungal tissue for DNA studies associated with the specimen.
- 6.** Approval to pass material provided by the Gardens or extracted DNA from said material to third parties must be obtained in advance. This action will require a new material transfer agreement with the third party approved by the Head Curator.
- 7.** Acknowledge the Denver Botanic Gardens or using the appropriate herbarium acronym (KHD, DBG, or DBGA) and each individual collector of the material provided in each publication in which data is used. An electronic copy of the publication should be sent to the Head Curator or Director of Research and Conservation.
- 8.** Register DNA sequences with GenBank/EMBL accession numbers. If no publication results from the study, accession numbers must be reported to the Head Curator.
- 9.** Acknowledge the material is provided by the Gardens without any warranty of any kind whatsoever.

Denver Botanic Gardens reserves the right to request, at no cost to Denver Botanic Gardens, full access to DNA or sequence material or images originally obtained from Gardens specimens.

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## DESTRUCTIVE SAMPLING OF HERBARIUM SPECIMENS Project Overview

**To be approved for destructive sampling, please provide the following information. Authorization of sampling will be granted only after completion of the project overview.**

Brief description of the project including justification for why destructive sampling of the selected specimens is necessary for completion of the project.

Brief description of the proposed extraction technique, justifying the amount of material needed.

List of specimens you intend to destructively sample. Each specimen listed should include the species name, collector and collection number (if available), and barcode. For arthropods, please include which body regions will be used and what parts will be returned to Denver Botanic Gardens. You may attach this information as a separate sheet if necessary.

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## DESTRUCTIVE SAMPLING OF HERBARIUM SPECIMENS Authorization Form

I certify that I have read and understood the above restrictions and agree that I  
will conform to all the regulations of Denver Botanic Gardens.

**Accepted:**

[Printed Name of Institution]

[Printed Name]

[Signature]

[Date]

Please complete and return to: (e-mail is acceptable)

Jennifer Ackerfield  
Associate Director of Research &  
Head Curator of Gardens' Herbaria  
Denver Botanic Gardens  
1085 York Street  
Denver, CO 80206  
jennifer.ackerfield@botanicgardens.org

[Approved Signature]

[Date of Approval]