

Destructive Sampling Policy

Policy Statement and Authorization Form

The policy detailed below is intended to help The University of Colorado Herbarium (COLO) balance the preservation and integrity of herbarium specimens with their utilization for scientific research. Decisions concerning destructive sampling of collections will be made on a case-by-case basis.

The investigator requesting destructive sampling should have experience with laboratory techniques to ensure a reasonable probability of research success. We expect the investigator to have made diligent efforts to sample material from non-herbarium resources prior to making this request. Requests for removal of samples from herbarium specimens should be addressed to the Curator, University of Colorado Herbarium, 350 UCB, Boulder, CO 80309-0350, U.S.A. Please read this policy statement, complete the agreement outlined below, and attach it to your specimen request list.

As a rule, no material may be removed from specimens without prior consent of the Curator of the Herbarium or a designated member of the Herbarium staff. Permission for removal of material, when given, is contingent upon adherence to the following guidelines:

1. Leaf material, pollen, spores, fungal tissue, bryophyte fragments, etc. may be removed from specimens only when there is adequate material available. Care must be taken not to damage the scientific value of the specimen. Whenever possible, material from fragment packets on the specimen should be sampled. Specimens should be properly stored during such study.
2. Pollen should be removed from no more than one flower per sheet, and the sheet must have more than three flowers except where permission is otherwise granted. The whole flower should not be damaged or removed.
3. Material may not be removed from type collections, from historical specimens, or from taxa represented in the herbarium by less than five collections, except in rare instances, and then only following approval by a designated staff member.
4. Material may not be removed from a herbarium sheet for a second time, if the nature of the study is the same (e.g., pollen material for SEM, leaf material for DNA analysis).
5. For anatomical and morphological studies, the researcher must return to the University of Colorado Herbarium either a duplicate high resolution micrograph or an SEM photograph as well as the magnification. The photo should be labeled with the name of the taxon, the collector's name and number, and the country of origin of the voucher sheet from which the sample was obtained.

6. For molecular studies, sampling requests should indicate the amount of material needed, and in general should never exceed 1 cm². Specimens must be annotated with the identification for the specimen accepted by the researcher. DNA sequence(s) derived from the specimen must be deposited into GenBank or EMBL within three years of the date of sampling. DNA obtained from COLO specimens must be properly stored and curated in a permanent storage facility. The University of Colorado Herbarium reserves the right to request aliquots of DNA extractions or raw sequences of material originally obtained from COLO specimens at any point.

7. For large or complicated requests of material for DNA extractions or other studies, researchers will be encouraged to visit COLO, using their own funds, to select specimens for sampling. Removal of material from specimens selected by the researcher will be made with supervision and approval by appropriate staff. Not only does a personal visit reduce the work required of the Herbarium staff, it allows the investigator to make more precise selections based on specimen age, material in packets, etc.

8. The University of Colorado Herbarium maintains no records on the history or treatment of the collections; materials are supplied with no warranty of any kind.

9. Use of specimens from the COLO must be cited in any resulting publication, a copy of which should be sent here.

10. It is intended that all destructive sampling is conducted for purposes of eventual preparation of a scientific manuscript. Please notify staff if this is not the case.

11. Each specimen sampled must be annotated, indicating the nature of the study, type of material removed, the researcher's name and institutional affiliation, and date of removal. Labels should not exceed ~ 6 x 2 mm in size. Examples:

<p>Sample: DNA, from leaves Researcher: Dina Clark Institution: COLO Herbarium Date: 28 February 2014</p>

<p>Sample: Isotopes, from roots Researcher: Tim Hogan Institution: COLO Herbarium Date: 28 February 2014</p>
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<p>Sample: Pollen, from flowers Researcher: Erin Tripp Institution: COLO Herbarium Date: 28 February 2014</p>

** Additionally, if the researcher does not accept the taxonomic identification of the specimen, and annotation label with an updated identification should be affixed to the specimen prior to return.

If you agree to sample materials under the above conditions, please sign this form and return it with your sampling request to the Curator, University of Colorado Herbarium, 350 UCB Boulder, CO 80309-0350, U.S.A. or email: herbcolo@colorado.edu

Printed Name and address of the Institution:

Research Investigator:

Printed Name

Signature

Date

Major Professor (if the Research Investigator is a graduate student):

Printed Name

Signature

Date

Person institutionally responsible for the loan if different from above: