

Northern Territory Herbarium Specimen Collections Loans Policy

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Acronyms	Full form
<Eg: NT>	<Eg: Northern Territory>
DNA	Northern Territory Herbarium (Darwin)
NT	Northern Territory Herbarium (Alice Springs)
CHAH	Council of the Heads of Australasian Herbaria
MAHC	

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1. Purpose & Context

Specimen collections from the Northern Territory Herbarium are available to loan for scientific research, providing the safety and integrity of the specimens are not compromised. Loan requests require the approval of the Chief Botanist in consultation with the Senior Botanist (Alice Springs). This policy outlines the criteria applied to decisions on the approval of requests for loans of specimen collections from the NT Herbarium, and the associated loan conditions.

2. Scope

This policy applies to all parties wishing to loan specimen collections and any associated material from the NT Herbarium collections. Loans may be requested for a range of research purposes including (but not limited to), taxonomy and systematics as well as palynological, ecological, ethnobotanical or historical studies where alternative sources of suitable material may not be available.

Loan requests for specimen collections that involve destructive sampling for the purposes of genetic, phytochemical or anatomical studies may be considered, although these requests will also need to demonstrate compliance with the Northern Territory Herbarium's *Destructive Sampling Policy* before approval is granted.

3. Criteria for approving loan of specimen collections

The following must be met for approval of a specimen collection loan from the NT Herbarium:

1. Requests must come from institutions registered with Index Herbariorum <http://sciweb.nybg.org/science2/IndexHerbariorum.asp>.
2. The *Convention on International Trade in Endangered Species of Wild Fauna and Flora* and Australian *Environment Protection & Biodiversity Conservation Act 1999* control the movement of specimens and parts of specimens of some taxa. Specimens or samples of CITES listed taxa can be sent only to CITES registered scientific receiving institutions. For information on registration and registered organisations, see <http://www.environment.gov.au/topics/biodiversity/wildlife-trade/trading-and-out-australia/non-commercial-trade/scientific>
3. Loans requests are negotiated with and agreed upon between Herbaria, not with individual researchers.
4. Transport and storage arrangements must be secure and acceptable to the NT herbarium.
5. Type specimens will only be provided for loan when specifically requested for a genuine taxonomic/nomenclatural reason or when no other material is available. Type specimens will typically only be approved for loan to jurisdictional herbaria within Australia and/or at the discretion of the Chief Botanist.
6. Loan requests for the complete holdings of a taxon (e.g. "all specimens of *Eucalyptus jensenii*") will not be approved. Researchers should evaluate the current holdings within the collection and select a subset of specimen collections for loan that suits their requirements (e.g. a geographic spread of a taxon from across its NT range).

4. Loan Requests

Loan requests must be made in writing, on institutional letterhead, by the Head (or delegated officer) of the borrowing institution. Requests must be addressed to the Chief Botanist and include the following information:

- i. The name(s) of the researcher(s) on whose behalf the loan is requested, and the name of their supervisor if applicable;
- ii. A brief description of the research being undertaken, its relationship to any wider projects (e.g. national or regional floras) and any associated commercial arrangements;
- iii. A list of specimens or taxa required, including synonyms, along with other requirements such as specific geographic regions or the inclusion of separate fruits or material preserved in liquid;
- iv. Full citation of type specimens, including the basionym and protologue;
- v. Details of proposed destructive sampling (refer to the Northern Territory Herbarium's *Destructive Sampling Guidelines*).

Additional material associated with a specimen collection (e.g. material preserved in liquid or silica desiccant gel, and separate fruits) will only be approved for loan when requested separately, in addition to the accessioned herbarium sheet. Where these types of material are the only material available (e.g. SPIRIT ONLY collections), these accessions should be clearly identified as such in the loan request.

5. Conditions for loan of specimen collections

Once a loan is approved, the researcher(s) must complete a *Northern Territory Herbarium Loan Agreement* (see attachment 1) to confirm that they have agreed to the loan conditions. Any variation to the loan conditions requires written consent from the Northern Territory Herbarium's Chief Botanist.

Storage and handling

1. The Head (or delegated officer) of the borrowing herbarium is responsible for the safe custody and return of specimens.
2. Specimens must be stored in a 'clean area' free of insects and other pests; and under climatic conditions that inhibit insect activity and fungal growth (recommended conditions: 16-21°C and less than 50% Relative Humidity).
3. Specimens must not be handled in a way that is likely to cause damage, and must be kept in their original folders or packets.
4. Specimens must not be subjected to fumigants or treatments other than freezing (such as methyl bromide, ethylene oxide, proprietary brands of insecticide, microwaving, dry heat treatment or irradiation).
5. Specimens must remain at the receiving herbarium. Specimens must not be transferred to another Herbarium without the written consent of the Northern Territory Herbarium's Chief Botanist.

Removal of material

6. Material must not be removed from type specimens without the express written consent of the Northern Territory Herbarium's Chief Botanist.
7. Removal and dissection of parts or extraction of pollen/spores from specimens is permitted for routine taxonomic examination, but only when the tissue or organ is in sufficient quantity to leave similar material on the specimen intact. Dissected flowers, fruits or other parts, where practical,

should be returned to the sheet in zip-lock polypropylene bags and include a label with the collector's name and number or the specimen's accession number. Flowers which have been rehydrated for dissection may be laid out in a folded square of paper, annotated with the collector's name and number or the specimen's accession number and reattached to the sheet with a plastic or plastic-coated paper clip.

8. Specimens must not be destructively sampled for SEM preparation, DNA extraction, phytochemical or isotope studies without the written consent of the Northern Territory Herbarium's Chief Botanist via a *Destructive Sampling Request*.
9. Duplicate specimens must not be removed without the written consent of the Northern Territory Herbarium's Chief Botanist

Annotations

10. Annotations (determinavit or confirmavit slips) must be provided for every collection, and include the current taxon name (including author), researcher's name, date and any relevant comments where applicable.
11. For type specimens, annotations must include the type status, basionym and protologue details if not already indicated.
12. Annotations must be in typescript or permanent ink (not ballpoint pen) on archival-quality slips. Self-adhesive slips are acceptable, provided they are of archival quality.
13. All annotations must be on separate slips. Alterations must not be made to existing slips.
14. For specimens on sheets, annotations should be affixed to the right-hand side of the sheet, where possible, and above any existing annotations. Do not place annotations over existing slips, labels or the specimen.
15. For specimens in packets, annotations should be affixed to the card inside the packet (fungi and lichens) or to the inside of the packet (bryophytes and algae). Annotations should be affixed to the left-hand side of the card or packet, below any existing slips or to an alternative secure position associated with the specimen collection if applicable. Do not place slips over existing slips or labels.
16. For specimens comprising mixed taxa or collections, each component should be clearly indicated with a separate annotation slip. Material can be separated but only if loose (e.g. material in packets).
17. Specimens that cannot be named, or those found to belong to taxa not under consideration, should be annotated with slips to the extent possible.

Photography

18. Specimens may be photographed for research reference purposes only. Images must not be used in any publication without the written consent of the Northern Territory Herbarium's Chief Botanist.

Citation and acknowledgement

19. The occurrences of some NT taxa may be considered 'sensitive' for a range of reasons including their conservation status, cultural or commercial value. In such cases, researchers should be mindful of providing locality details with some circumspection in order to reduce the likelihood of exploitation or to protect cultural heritage. Consideration should be given to generalising a localities (e.g.: 'E of Cann River', rather than '17.8 km E of Cann River on Princes Hwy') while retaining enough other data in the citation to allow unambiguous identification of the specimen.
20. The Northern Territory Herbarium must be acknowledged in any publication(s) that present results derived from the loaned specimens and must also receive a copy of any resultant publication(s).

Return of loan

21. Loans must be returned as soon as possible after the completion of study, and within the specified loan period (generally 12 months). Extension of the loan period may be granted on request.
22. Where possible, loans should be returned in their entirety. The partial return of loans can be negotiated with the Northern Territory Herbarium's Chief Botanist
23. Specimens being returned to the Northern Territory Herbarium must be returned by traceable postal service. They must not be returned via courier service (e.g. FedEx, TOLL, DHL) without the written consent of the Northern Territory Herbarium's Chief Botanist. If a courier service is used, the herbarium returning the specimens may be asked to reimburse any potential quarantine fees incurred by the Northern Territory Herbarium.
24. Loans returning from overseas to Australia must be packed according to the *NT Herbarium Quarantine Guidelines* and accompanied by the appropriate documents and labelling, as described in that document.
25. Specimens must be securely packaged to prevent damage in transit.

NOTE: Biosecurity requirements exist for the entry of specimen collections on loan or the return of loaned specimen collections from outside Australia. Refer to the Northern Territory Herbarium's overseas loan documentation for details¹.

6. Loan Agreement

Loans will only be approved after completion and signing of the *Northern Territory Herbarium Loan Agreement* by the relevant researcher, their supervisor and the head/delegated officer of both the borrowing institution and the Chief Botanist.

Loans from the Northern Territory Herbarium are provided subject to the signing of the loan agreement with the following caveats.

1. The Northern Territory Herbarium provides no warranty and accepts no responsibility or liability for the suitability of the loaned material, data or derived data. Assessment of the suitability of the loaned material and data for intended use is the responsibility of the receiving institution or researcher.
2. The Northern Territory Herbarium does not maintain a record on the history of individual specimens in regard to its collection or treatment methods.

¹ All specimens loaned to the Northern Territory Herbarium are subject to cold treatment at -18 degrees Celsius (at a minimum) of 7 consecutive days as part of the Northern Territory Herbarium's Integrated Pest Management Program. This is an Australian Government quarantine requirement for all herbarium material arriving at the receiving institution.

7. Definitions

Table of terms used and their definition

Annotation	A supplementary label or note added to a specimen collection to provide taxonomic updates or confirmations subsequent to the original label information associated with the mounted specimen collection
Biodiscovery	Means research on samples of biological resources, or extracts from those samples, to discover and exploit genetic or biochemical resources of actual or potential value for humanity
Biological Resources	Includes genetic resources, organisms, parts of organisms, populations and any other biotic component of an ecosystem with actual or potential use or value for humanity
Bioprospecting	The taking of samples of biological resources, existing in situ or maintained in an ex situ collection of such resources, for research in relation to any genetic resources, or biochemical compounds, comprising or contained in the biological resources
Genetic Resources	Any material of plant, animal, microbial or other origin that contains functional units of heredity and has actual or potential value for humanity
Material preserved in liquid	Spirit collections preserved in alcohol
Separate Fruits	Specimen collections held in the designated carpological collection of the Northern Territory Herbarium.
Specimen or specimen collection	A preserved dried plant mounted on archival sheet.
Type (or nomenclatural type) specimen	The element (typically a specimen collection) used to describe a taxon and to which the name of a taxon is permanently attached. The published scientific name and official description of the taxon are associated with this type specimen. Various categories of type specimens are defined in the International Code of Nomenclature for Algae, Fungi and Plants (Turland et al. 2018).

8. Legislation and associated documents

Protection of Objects of Moveable Cultural Heritage Act (1986) [Federal Register of Legislation - Protection of Movable Cultural Heritage Act 1986](#)

Environment Protection and Biodiversity Conservation Act (1999) [Federal Register of Legislation - Environment Protection and Biodiversity Conservation Act 1999](#)

Northern Territory of Australia Weeds Management Act (2001) [Legislation Database \(nt.gov.au\)](#)

Northern Territory of Australia Territory Parks and Wildlife Conservation Act (1976) [Legislation Database \(nt.gov.au\)](#)

Convention on the International Trade in Endangered Species of Wild Flora and Fauna (1963)

Northern Territory of Australia Biological Resources Act (2006) [Legislation Database \(nt.gov.au\)](#)

Council of the Heads of Australasian Herbaria and Managers of Australasian Herbarium Collections Specimen Loans Policy available at <https://chah.gov.au/documents-and-guidelines/>

Council of the Heads of Australasian Herbaria and Managers of Australasian Herbarium Collections Loan Conditions available at <https://chah.gov.au/documents-and-guidelines/>

8.1. Agency resources

Northern Territory Herbarium Specimen Collections Management Policy

Northern Territory Herbarium Destructive Sampling Policy

9. Attachment 1

NT Herbarium Loan Agreement