

Conservation Assessment
for
Clingman's hedge-nettle (Stachys clingmanii Small)



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9/30/04

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This Conservation Assessment was prepared to compile the published and unpublished information on the subject taxon or community; or this document was prepared by another organization and provides information to serve as a Conservation Assessment for the Eastern Region of the Forest Service. It does not represent a management decision by the U.S. Forest Service. Though the best scientific information available was used and subject experts were consulted in preparation of this document, it is expected that new information will arise. In the spirit of continuous learning and adaptive management, if you have information that will assist in conserving the subject taxon, please contact the Eastern Region of the Forest Service - Threatened and Endangered Species Program at 626 East Wisconsin Avenue, Milwaukee, Wisconsin 53203.

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EXECUTIVE SUMMARY

Clingman's hedge-nettle (*Stachys clingmanii* Small) is an herbaceous perennial in the mint family. Clingman's hedge-nettle occurs mostly in mountain woodlands at high altitudes, with disjunct occurrences in Indiana and, possibly, Illinois.

Stachys clingmanii has a Global Conservation Status rank of G2Q, designating it is considered imperiled globally. The "Q" indicates Questionable taxonomy, meaning the distinctness of this entity at the current level is questionable. Its National Conservation Status rank is N2, indicating it is considered imperiled in the United States. It is a Regional Forester Sensitive Species on the Hoosier National Forest in Indiana.

There are documented populations in Alabama, Tennessee, South Carolina, North Carolina, Maryland, and Indiana. Of 30 known occurrences in state Heritage Databases, all but three are on protected or managed land. Many records are more than 20 years old, however.

There is one reported occurrence on the Hoosier National Forest in Indiana. However, no specimens collected on the Hoosier National Forest can currently be located and little is known about the site.

Stachys clingmanii is a species of very restricted geographic range. Some known occurrences have been extirpated and few recent localities have been identified. It is not known if the plant is generally in decline, is over-looked, or is misidentified when seen. Studies are needed to document population trends and to resolve taxonomic questions regarding its distinctness as a taxon.

ACKNOWLEDGEMENTS

I would like to thank Science Librarian Barb Howes at Butler University for tireless assistance with references, Marcia Moore, Herbarium Assistant for help in all things and Butler student Kathy Fidler for research and clerical assistance. I am grateful to Kirk Larson, Botanist on the Hoosier National Forest, and to all agency personnel who provided information.

NOMENCLATURE AND TAXONOMY

Class: Dicotyledoneae

Order: Lamiales

Family: Lamiaceae, the mint family

Scientific name: *Stachys clingmanii* Small

Common name: Clingman's hedge-nettle

Published in: *Flora of the southeastern United States*. J. K. Small. p. 1032. 1913.

Synonyms: none

Infraspecific taxa: none

DESCRIPTION OF SPECIES

Clingman's hedge-nettle was originally described by Small (1913) from Clingman's Dome, North Carolina. Some authorities question the recognition of this taxon as a separate species (W-10).

Small (1913) describes the taxon as:

Perennial, hispid-hirsute. Stems erect, 3-10 dm. long, simple, its hairs spreading: leaf-blades oblong or oblong-lanceolate, 6-12 cm. long, acuminate, dentate, truncate or subcordate at the base; petioles 1/5-1/6 as long as the blade: clusters in the upper axils of leaf-like bracts: bracts surpassing the calyx: calyx 6-7 mm., corolla bluish, 1.5 cm. long; tube saccate a little above the base, the upper lip pilose on the back, the lower lip as long as the tube, with a suborbicular middle lobe and ovate lateral lobes: filaments villous: nutlets about 2 mm. long.

The following description is based on Gleason and Cronquist (1991), Radford et al. (1968) and Yatskievych (2000):

Stem 0.5-0.8 m, hirsute on the angles only with pustulate (= with little blisters) hairs 1-2 mm. deflexed at 45 degrees; leaves lance-ovate to oblong, 6-18 cm long, 3-7 cm wide, acuminate, sharply serrate, obtuse to subcordate at base, sharply serrate, hirsutulous on both sides; petioles slender, 0.5-4.5 cm, smooth on the upper side; verticals (= whorls of flowers) usually 6-flowered; calyx-tube hairy, 3.3-5.3 mm, the lobes deltoid-acuminate, half as long, tapering to a subulate tip 1 mm. Corolla deep pink, strongly 2-lipped, 14-18 mm. Mericarps 2.2-2.3 mm long.

Gleason and Cronquist (1991) note plants from Illinois and Indiana, with the bristles scarcely deflexed, are also referred here.

It is distinguished from other perennial *Stachys* with leaf-blades cordate or truncate at the base by having petioles less than 1/4 as long as the blades, lower leaves with petioles several times longer than those of the upper, and calyx lobes awned at the tips (Small 1913). This plant is frequently misidentified (John Nelson, pers. com.).

The following key to *Stachys* is from Radford et al. (1968):

- Longest petioles more than 1/3 the length of the blade*S. floridana*
- Longest petioles less than 1/3 the length of the blade.
 - Leaves acute or obtuse, linear to elliptic*S. hyssopifolia*
 - Leaves acuminate, ovate to elliptic ovate.
 - Sides of upper internodes glandular-puberulent*S. nuttallii*
 - Sides of upper internodes glabrous or with remote trichomes.
 - Angles of stem densely pubescent with horizontally spreading, long trichomes*S. clingmanii*
 - Angles of stem glabrous or with reflexed, short trichomes.
 - Calyx lobes 2/3 or more as long as the tube*S. tenuifolia*
 - Calyx lobes less than 1/2 as long as the tube*S. latidens*

LIFE HISTORY

Clingman’s hedge-nettle is an herbaceous perennial.

Reproduction

Sexual reproduction is via seeds. Asexual reproduction is possible via rhizomes.

Ecology

No information found.

Dispersal/Migration

Seeds are most likely dispersed by gravity.

Obligate Associations

HABITAT

Rangewide

Clingman’s hedge-nettle occurs mostly in mountain woodlands at high altitudes (Gleason and Cronquist 1991). Mohlenbrock (1986) for Illinois reports Clingman's hedge-nettle from rocky woods. Deam (1940) reports it as local in various habitats: dry oak slopes, moist sugar maple and beech woods, and hard white clay soil in a sweet gum "flat" in Indiana. Most localities in Indiana are along banks of rivers and creeks.

Radford et al. (1968) cite meadows, roadsides and clearings, often previously disturbed by fire, for Clingman’s Hedge-nettle in the southeast. It grows at high elevations, typically in northern hardwood forests, spruce-fir forest, and on grassy balds in Great Smokey Mountains National Park. It appears to like sunny

openings: the few records the National Parks Service has usually state that it is trailside or in an opening (Janet Rock, pers. com.).

The variety of habitats described for the species across its range suggests more than one species may be involved (Steve Olson, pers. com.).

National Forests

There is one reported occurrence on the Hoosier National Forest in Indiana, from the Highland Rim Section (Olson and Reynolds 2000) between an ephemeral pond and oxbow lake which does not remain inundated by water but dries out each year. However, no specimens collected on the Hoosier National Forest can currently be located and nothing more is known about the site (Kirk Larson, pers. com.).

Site Specific

See above.

DISTRIBUTION AND ABUNDANCE

Range-wide Distribution

There are documented populations in Alabama, Tennessee, South Carolina, North Carolina, Maryland, and Indiana (W-10). It is also reported for AL, AR, and VT (W-2). Mohlenbrock (1986) reports it from Illinois, but herbaria there have no specimens (Steven Hill, pers. com.; Daniel Nickrent, pers. com.). The species is now thought not to occur in Maryland and that reports of it were hybrids and/or misidentifications (Chris Frye, pers. com.).

The Alabama record for Clingman's hedge-nettle is questionable. "The only citation occurring in Alabama appears in Kartesz; no actual vouchers exist as far as we know (we've not checked all herbaria, however)" (Al Schotz, pers. com.). The same is true for Arkansas (Theo Witsell, pers. com.) and Vermont (Bob Popp, pers. com.). The source of the record for Arkansas and Vermont is a 1989 publication on the taxonomy of North American *Stachys* (Mulligan and Munro 1989). The authors were contacted during research for this report and were unable to provide additional information, in part because specimens at their home institution had been loaned in 1995 and never returned. We contacted herbaria listed in their paper to try to locate vouchers. None were found, although not all herbaria responded (see Appendix for a list). Another *Stachys* taxonomist, John

Nelson at the A. C. Moore Herbarium at the University of South Carolina, feels *Stachys clingmanii* is primarily a southeastern species and he knows of no collections from Vermont or Arkansas (John Nelson, pers. com.). He mentions it may occur out of the southeast, as in some odd-looking plants in Indiana.

The validity of identification of plants in Indiana as *Stachys clingmanii* has been questioned by some, but one expert consulted by the Division of Nature Preserves of the Indiana Department of Natural Resources has confirmed that plants collected in Indiana are Clingman's hedge-nettle (Mike Homoya, pers. com.). However, specimens in the Deam Herbarium at Indiana University have not been annotated since 1932 (Eric Knox, pers. com.).

Dr. George Ramseur, of the University of the South in Tennessee, reported this plant from many sites in the Great Smokey Mountains during the 1950's (Tennessee Natural Heritage Database 2004). He recalls it was not widespread or abundant and does not remember seeing the plant since about 1957 (George Ramseur, pers. com.).

State and National Forest Distribution

There is one reported occurrence on the Hoosier National Forest in Indiana, from the Highland Rim Section (Olson and Reynolds 2000). However, no specimens collected on the Hoosier National Forest can currently be located and nothing more is known about the site (Kirk Larson, pers. com.). A specimen, now lost, collected by Steve Olson keyed to *S. clingmanii* based on descriptions in Deam (1940), Mohlenbrock (1986), and Radford et al. (1968), although he was not entirely convinced it was *S. clingmanii* (Steve Olson, pers. com.).

RANGE WIDE STATUS

Stachys clingmanii has a Global Conservation Status rank of G2Q, designating it is considered imperiled globally (G2, at high risk of extinction due to very restricted range, very few populations (often fewer than 20) steep declines, or other factors) (W-11). The "Q" indicates Questionable taxonomy, meaning the distinctness of this entity at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or the inclusion of this taxon in another taxon, with the resulting taxon having a lower-priority conservation value.

Its National Conservation Status rank is N2, indicating it is considered imperiled in the United States (W-11). It is a Regional Forester Sensitive Species on the Hoosier National Forest in Indiana.

This plant of extremely limited geographic range has sub-regional, or state, rankings in 7 states (W-10). See Appendix for a detailed list. It is considered SH, historical in North Carolina, SR (meaning the plant is reported for the state, but without persuasive documentation that would provide a basis for either accepting or rejecting the species) in Alabama, and SU (currently unrankable due to lack of information or due to substantially conflicting information about status or trends) in West Virginia. Maryland ranks it SRF, falsely reported (Chris Frye, pers. com.).

Two states, Indiana and South Carolina, rank it S1 indicating it is extremely rare; typically 5 or fewer known occurrences in the state, or only a few remaining individuals may be especially vulnerable to extirpation. It is S1S2 in TN, indicating it is between S1 status and S2, very rare, typically between 6 and 20 known occurrences; may be susceptible to becoming extirpated.

Indiana and Maryland list the plant as Endangered in the state. Tennessee lists it as Threatened.

Janet Rock, Botanist with the Great Smokey Mountains National Park where *S. clingmanii* was first described from Clingman's Dome in North Carolina reports that it appears secure in the park and is not monitored.

POPULATION BIOLOGY AND VIABILITY

The single reported population in the Hoosier National Forest is reported as stable and self-sustaining (Olson 1999).

POTENTIAL THREATS

Present or Threatened Risks to Habitat

NatureServe explorer (W-10) notes there are many historical occurrences of *Stachys clingmanii*, but the causes of loss of these populations are not known. High impact recreational use in its habitat in National Parks is cited as a concern. Forest Management Practices are thought to present a low-level threat (W-10).

Over utilization

No information found.

Disease or Predation

No information found.

Inadequacy of Existing Regulatory Mechanisms

No information found.

Other Natural or Human Factors

Clingman's hedge-nettle is reported to be a possible bioindicator plant, showing signs of ozone damage in the Great Smokey Mountains National Park (National Park Service 2003). Evidence from different observers is conflicting, however.

SUMMARY OF LAND OWNERSHIP & EXISTING HABITAT PROTECTION

Of 30 known occurrences of Clingmann's hedge-nettle in state Heritage Databases, all but three are on protected or managed land. Many records are more than 20 years old, however.

For Indiana, there are 5 historical occurrences, with plants last seen in 1932 or before (Indiana Natural Heritage Database 2002). Two localities were resurveyed in 1980. One had appropriate habitat still present but the plant was not seen. One site has been destroyed by logging. Two sites that have not been revisited are on state forests.

There are 15 known occurrences in North Carolina (North Carolina Natural Heritage Database 2004). All are protected to some degree by virtue of being in Great Smokey Mountains National Park (11) or on National Park Service Land on the Blue Ridge National Parkway (4). The most recent observation of the plants at any of these sites was in 1977. Most records are from the 1950's with a few from the '30's and '40's.

There are two occurrences listed in the South Carolina Natural Heritage Database (2004), one reported in 1960 (not relocated in 1985) and one in 1985. One is on the Sumter National Forest, Andrew Pickens District. The other is on Brasstown Creek Heritage Preserve.

Tennessee has records for 20 occurrences (Tennessee Natural Heritage Database 2004). All are on the Cherokee National Forest or in Great Smokey Mountains National Park. Ten of these have not been observed since 1940 or before. Numbers of plants are reported for three sites: two with <100, one with 100-1,000.

SUMMARY OF EXISTING MANAGEMENT ACTIVITIES

No information found.

PAST AND CURRENT CONSERVATION ACTIVITIES

No information found.

RESEARCH AND MONITORING

Existing Surveys, Monitoring, and Research

No information found.

Survey Protocol

No information found.

Research Priorities

Stachys clingmanii is a species of very restricted geographic range. Some known occurrences have been extirpated and few recent localities have been identified. It is not known if the plant is generally in decline, is over-looked, or is misidentified when seen. Studies are needed to document population trends and to resolve taxonomic questions regarding its distinctness as a taxon.

REFERENCES

- Brown, M. L. and R. G. Brown. 1984. Herbaceous plants of Maryland (p. 811). Port City Press, Inc: Baltimore.
- Deam, C. C. 1940. Flora of Indiana (pp. 812-813). Indianapolis: Wm. B. Buford Printing Co.
- Gleason, H. A. and A. Cronquist. 1991. Manual of vascular plants of northeastern United States and adjacent Canada 2nd ed (p. 454). New York: New York Botanical Garden.
- Holmgren, N. H. 1998. Illustrated companion to Gleason and Cronquist's manual: illustrations of the vascular plants of northeastern United States and adjacent Canada (p. 426). New York: New York Botanical Garden.
- Indiana Natural Heritage Database. 2002. Element Occurrence Record: *Stachys clingmanii*. Indiana Department of Natural Resources. 5 records.
- Kartesz, J. T. 1994. A synonymized checklist of the vascular flora of the United States, Canada, and Greenland, Vol. 1, 2nd ed. (p. 353). Biota of North America Program, North Carolina Botanical Garden. Portland Oregon: Timber Press.
- Mohlenbrock, R. H. 1986. Guide to the Vascular Flora of Illinois (pp. 385-386). Carbondale, Illinois: Southern Illinois University Press.
- National Park Service Air Resources Division, US Fish and Wildlife Service Air

Quality Branch. 2003. Ozone sensitive plant species on national park service and US Fish and Wildlife Service lands: results of a June 24-25, 2003 workshop, Baltimore Maryland.

North Carolina Natural Heritage Database. 2004. Element Occurrence Record: *Stachys clingmanii*. North Carolina Department of Natural Resources. 15 records.

Olson, S. 1999. RFSS risk evaluation for *Stachys clingmanii*. Regional Forester Sensitive Species List Update. 14 pp.

Small, J. K. 1913. Flora of the southeastern United States (p. 1032). New York: published by the author.

South Carolina Natural Heritage Database. 2004. Element Occurrence Record: *Stachys clingmanii*. South Carolina Department of Natural Resources. 2 records.

Tennessee Natural Heritage Database. 2004. Element Occurrence Record: *Stachys clingmanii*. Tennessee Department of Natural Resources. 20 records.

Yatskievych, K. 2000. Field guide to Indiana wildflowers, number 899. Bloomington, Indiana: Indiana University Press.

Web references:

W-1. Baskauf, S.J. Vanderbilt University. <http://www.cas.vanderbilt.edu/perl>.

W-2. The Biota of North America Program, and The Texas A&M Bioinformatics Working Group. <http://www.csdl.tamu.edu/FLORA>.

W-3. Endangered, threatened, and rare species documented from Brown County, Indiana. <http://www.in.gov/dnr.naturepr/species/brown.pdf>.

W-4. Endangered, threatened, and rare species documented from Clark County, Indiana. <http://www.in.gov/dnr.naturepr/species/clark.pdf>.

W-5. Illinois Plant Information Network (ILPIN). <http://www.fs.fed.us/ne/delaware/ilpin>.

W-6. Integrated Taxonomic Information System (ITIS). <http://www.itis.usda.gov>.

W-7. Lake Michigan Monitoring Coordination Council (LMMCC) – Wildlife Work Group: summary of priority species for relevant states and agencies. <http://wi.water.usgs.gov/lmmcc/workgroups/wildlife/plants.pdf>.

W-8. Light, K. East Tennessee Wildflowers. http://light.gotdns.com/gallery/Summer-Roadsides-Pink/Hedge_nettle_clingmans1.

- W-9. Missouri Botanical Garden. http://mobot.mobot.org/cgi-bin/search_vast.
- W-10. NatureServe Explorer: An online encyclopedia of life.
<http://www.natureserve.org/explorer>.
- W-11. Regional forester sensitive plants. USDA Forest Service, Region 9.
http://www.fs.fed.us/r9/wildlife/tes/docs/rfss_plants_083002.pdf.
- W-12. Regional Forester summary of effects of RFSS Plant and Animal Species.
http://fs.fed.us/r9/hoosier/project_docs/eas/braun_ea_predec_app_e.pdf.
- W-13. University of South Carolina Aiken, Ruth Patrick Science Education Center –
Vegetational Communities of the Great Smoky Mountains.
<http://rpsec.usca.sc.edu/Utilities/Pictures/smoky/s115stac.JPG>.
- W-14. University of South Carolina. <http://cricket.biol.sc.edu/herb/S/1758.jpg>.
- W-15. University of Tennessee Herbarium, Tennessee Vascular Plants Atlas.
<http://www.tenn.bio.utk.edu/vascular/database>.
- W-16. USDA and NRCS PLANTS Profile. <http://www.plants.usda.gov>.

APPENDIX

Alabama	SR	South Carolina	S1
Indiana	S1	Tennessee	S1S2
Maryland	S1	West Virginia	SU
North Carolina	SH		

S1: Extremely rare; typically 5 or fewer known occurrences in the state, or only a few remaining individuals may be especially vulnerable to extirpation.

S2: Very rare; typically between 6 and 20 known occurrences; may be susceptible to becoming extirpated.

S3: Rare to uncommon; typically 21 to 50 known occurrences; S3 ranked species are not yet susceptible to becoming extirpated in the state but may be if additional populations are destroyed.

S4: Common; apparently secure under present conditions; typically 51 or more known occurrences, but may be fewer with many large populations; usually not susceptible to immediate threats.

S5: Very common; demonstrably secure under present conditions.

SX: Species has been determined or presumed to be extirpated. All historical occurrences have been searched, or all known sites have been destroyed and a thorough search of potential habitat has been completed.

SR: Reported from the state, but without persuasive documentation that would provide a basis for either accepting or rejecting the species.

S?: Not enough information available to assess at this time, more field studies and/or specimen identification is needed.

SH: Possibly extirpated (historical); occurred historically and there is some expectation that it may be rediscovered. Its presence may not have been verified in the past 20 years.

SU: Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

HYB: Unranked because it represents an interspecific hybrid, not a species.

Herbaria searched online for specimens of *Stachys clingmanii*:

ARIZ = Univ. of Arizona
Herbarium
University of Arizona
113 Shantz Building, P.O. Box 210038
Tucson, Arizona 85721-0038
<http://eebweb.arizona.edu/HERB/index.html>
[1] 520/ 621-7243 (phan
Email: pjenkins@u.arizona.edu

B = Herbarium
Botanischer Garten und Botanisches Museum Berlin-Dahlem, Zentraleinrichtung der Freien
Universität Berlin
Königin-Luise-Strasse 6-8
D-14191 Berlin (letters); D-14195 (parcels)
Germany
<http://www.bgbm.fu-berlin.de> [49] 30/ 83850-100. Email: wg@zedat.fu-berlin.de

BARC = U.S. National Seed Herbarium
Systematic Botany and Mycology Laboratory, USDA/ARS
10300 Baltimore Avenue, Building 011A, BARC-West
Beltsville, Maryland 20705-2350
<http://nt.ars-grin.gov>

BM = Herbarium
The Natural History Museum
Cromwell Road
London SW7 5BD, England
U.K.
<http://www.nhm.ac.uk> 44] 207/ 942-5118. Email: r.huxley@nhm.ac.uk

BR = Herbarium
Jardin Botanique National de Belgique
Domein van Bouchout
B-1860 Meise
Belgium
<http://www.br.fgov.be> [32] 2/ 260 09 50. Email: robbrecht@br.fgov.be

GH = Herbaria
Harvard University
22 Divinity Avenue
Cambridge, Massachusetts 02138-2020
<http://www.huh.harvard.edu>
Contact [1] 617/ 495-2365; Email: ewood@oeb.harvard.edu

Harvard University
22 Divinity Avenue
Cambridge, Massachusetts 02138-2020
<http://www.huh.harvard.edu/nebc/>
Email: rangelo@oeb.harvard.edu

Jepson Herbarium
University of California
1001 Valley Life Sciences Building #2465

Berkeley, California 94720-2465
<http://ucjeps.berkeley.edu/>
[Contact](#) [1] 510/ 643-7008.; Email: bmishler@socrates.berkeley.edu

MICH = Herbarium
University of Michigan
3600 Varsity Drive
Ann Arbor, Michigan 48108-2287
<http://herbarium.lsa.umich.edu>
Email: reznicek@umich.edu; [Contact](#) [1] 734/ 764-2407.

MO = Herbarium
Missouri Botanical Garden
P.O. Box 299
Saint Louis, Missouri 63166-0299
<http://www.mobot.org/>
[Contact](#) [1] 314/ 577-5169. Email: james.zarucchi@mobot.org

NA = Herbarium
United States National Arboretum, USDA/ARS
3501 New York Avenue, N.E.
Washington, District of Columbia 20002-1958
<http://www.usna.usda.gov/Research/Herbarium/index.html>
[Contact](#) [1] 202/ 245-4550.; [1] 202/ 245-4513 Email: nakc@ars-grin.gov

NY = William and Lynda Steere Herbarium
New York Botanical Garden
Bronx, New York 10458-5126
<http://www.nybg.org> Email: bthiers@nybg.org
Found 1 record

UPS = Uppsala University
Norbyvägen 16
SE-752 36 Uppsala Sweden
<http://www-hotel.uu.se/evolmuseum/fytotek/>
[46] 18/ 471 2791 roland.moberg@evolmuseum.uu.se

Herbaria e-mailed or sent letters:

ALA = Herbarium
University of Alaska Museum
P.O. Box 756960, 907 Yukon Drive
Fairbanks, Alaska 99775-6960
[1] 907/ 474-7109 Email: fnarb@uaf.edu
NO RECORDS FOUND

BR = Herbarium
Jardin Botanique National de Belgique
Domein van Bouchout
B-1860 Meise Belgium
<http://www.br.fgov.be> [32] 2/ 260 09 50. Email: robbrecht@br.fgov.be
NO RECORDS FOUND

CAN = National Herbarium of Canada
Canadian Museum of Nature
P.O. Box 3443, Station D
Ottawa, Ontario K1P 6P4 Canada
[1] 613/ 364-4076 Email: mshchepane@mus-nature.ca
NO RECORDS FOUND

CM = Herbarium
Carnegie Museum of Natural History
4400 Forbes Avenue
Pittsburgh, Pennsylvania 15213-4080
<http://www.carnegiemuseums.org/cmnh/botany>
[1] 412/ 622-3253. Email: isaacb@carnegiemuseums.org
SENT 2 RECORDS

DAO = Vascular Plant Herbarium
Agriculture and Agri-Food Canada
Wm. Saunders Building, Central Experimental Farm
Ottawa, Ontario K1A 0C6 Canada
http://res2.agr.ca/ecorc/dao/index_e.htm
[1] 613/ 759-1373. Email: catlingp@agr.gc.ca
REPLIED – SHEETS ON LOAN; SUGGESTED WE CONTACT Dr. John Nelson at USCH (Univ. of South Carolina, Columbia)

F = Herbarium
Field Museum of Natural History
1400 South Lake Shore Drive
Chicago, Illinois 60605-2496
[Contact](mailto:gmueller@fmnh.org) [1] 312/ 665-7861.; Email: gmueller@fmnh.org
SENT 1 RECORD

FSU = R. K. Godfrey Herbarium
Florida State University
Tallahassee, Florida 32306-4370
<http://www.bio.fsu.edu/herbarium/>
[Contact](mailto:herbarium@bio.fsu.edu) [1] 850/ 644-6278.; Email: herbarium@bio.fsu.edu
NO RECORDS FOUND

ILL = Herbarium
University of Illinois
505 South Goodwin Avenue
Urbana, Illinois 61801
[Contact](mailto:d-seigler@uiuc.edu) [1] 217/ 333-2522.; Email: d-seigler@uiuc.edu
SENT 1 RECORD

ILL = Herbarium
University of Illinois
505 South Goodwin Avenue
Urbana, Illinois 61801
[Contact](mailto:d-seigler@uiuc.edu) [1] 217/ 333-2522.; Email: d-seigler@uiuc.edu
SENT 2 RECORDS

MASS = Herbarium
University of Massachusetts
Amherst, Massachusetts 01003-5810

<http://informatics.bio.umass.edu/museum/herbarium>
Contact [1] 413/ 545-2775.; Email: ksearcy@bio.umass.edu
NO RECORDS FOUND

MT = Herbar Marie-Victorin
Université de Montréal
4101, rue Sherbrooke est
Montréal, Québec H1X 2B2 Canada
<http://www.irbv.umontreal.ca/francais/herbier/accueil.h>
brouille@irbv.umontreal.ca; luc.brouillet@umontreal.ca [1] 514/ 872-8496; 872-8474.
SENT 1 RECORD

MTMG = Herbarium
McGill University, Macdonald Campus
21111 Lakeshore Road
Sainte-Anne-de-Bellevue, Québec H9X 3V9 Canada
<http://www.mcgill.ca/macdonald/campus/herbarium/>
[1] 514/ 398-7851, ext. 8726 or 7864. Email: waterway@macdonald.mcgill.ca
NO RECORDS FOUND

NDG = Herbarium
University of Notre Dame
007 Galvin Life Science Center
Notre Dame, Indiana 46556-0369
[1] 574/ 631-6684; 631-6552 Email: barbara.j.hellenthal.2@nd.edu
NO RECORDS FOUND

NHA = Albion R. Hodgdon Herbarium
University of New Hampshire
Durham, New Hampshire 03824-2617
<http://www.unh.edu/herbarium/>
Email: garrett.crow@unh.edu or gec@christa.unh.edu
NO RECORDS FOUND

OXF = Fielding-Druce Herbarium
University of Oxford
South Parks Road
Oxford OX1 3RB, England U.K.
<http://www.plants.ox.ac.uk/herbarium/index.html>
Email: stephen.harris@plants.ox.ac.uk
NO RECORDS FOUND

PH = Herbarium
Academy of Natural Sciences
19th and Parkway
Philadelphia, Pennsylvania 19103
<http://www.acnatsci.org/research/biodiv/botany.html> Email: macklin@acnatsci.org
SENT 2 RECORDS

QFA = Herbar Louis-Marie
Université Laval
Pavillon C.-E. Marchand
Sainte-Foy, Québec G1K 7P4 Canada
[1] 418/ 656-2131, ext. 2613. Email: michelle.garneau@rsvs.ulaval.ca
SENT 1 RECORD

RM = Rocky Mountain Herbarium
University of Wyoming
Laramie, Wyoming 82071-3165
[1] 307/ 766-2236; 766-4393; 766-2380. Email: rhartman@uwyo.edu
NO RECORDS FOUND

RSA = Herbarium
Rancho Santa Ana Botanic Garden
1500 North College Avenue
Claremont, California 91711-3
[1] 909/ 625-8767, ext. 248 or 233. Email: gary.wallace@cgu.edu
SENT 1 RECORD

SIU = Herbarium
Southern Illinois University
Carbondale, Illinois 62901-6509
<http://www.science.siu.edu/plant-biology/herbarium/index.html>
[1] 618/ 536-2331, ext. 30. Email: nickrent@plant.siu.edu
NO RECORDS FOUND

UCLA = no contact info listed
This was forwarded to them from someone and they sent 3 records.

UCR = Herbarium
University of California
Riverside, California 92521-0124
[1] 909/ 787-3601. Email: andrew.sanders@ucr.edu
NO RECORDS FOUND

UCSB = Herbarium
University of California
Santa Barbara, California 93106
[1] 805/ 893-2506. Email: ferren@lifesci.lscf.ucsb.edu
SENT 1 RECORD

V = Herbarium
Royal British Columbia Museum
P.O. Box 9815 Stn Prov Govt, 675 Belleville Street
Victoria, British Columbia V8V 9W2 Canada
[1] 250/ 387-5493. Email: rhebda@royalbcmuseum.bc.ca
NO RECORDS FOUND

WIS = Herbarium
University of Wisconsin
132 Birge Hall, 430 Lincoln Drive
Madison, Wisconsin 53706-1381
<http://www.wisc.edu/botany/>
[1] 608/ 262-2792. Email: peberry@wisc.edu
SENT 2 RECORDS

WTU = Herbarium
University of Washington
Box 355325
Seattle, Washington 98195-5325
<http://depts.washington.edu/wtu/home.htm>

[1] 206/ 543-1682. Email: wtu@u.washington.edu
NO RECORDS FOUND

Herbaria e-mailed or sent letters and they have NOT responded:

A = Arnold Arboretum, Harvard University
22 Divinity Avenue
Cambridge, Massachusetts 02138
Carroll E. Wood, [1] 617/ 495-2362, no e-mail listed

BH = Bailey Hortorium Herbarium
Cornell University
228 Plant Science Building
Ithaca, New York 14853
<http://bhort.bh.cornell.edu/herb.htm>
[1] 607/ 256-5341; Email: kcn2@cornell.edu

CAS = Herbarium
California Academy of Sciences
875 Howard Street
San Francisco, California 94103
415/ 750-7187; Email: bbartholomew@calacademy.org
Also DS = Dudley Herbarium at same address

CCO = Herbarium
Carleton University
1125 Colonel By Drive
Ottawa, Ontario K1S 5B6 Canada
No staff or numbers listed; most of their specimens transferred to other Herbs. And they were mostly fungi and algae, lichens and bryophytes

CSPU = Herbarium
California State Polytechnic University
Pomona, California 91768-4032
<http://www.csupomona.edu/~biology/>
909/ 869-4062.; Email: jcclark@csupomona.edu

FMC = Herbarium
North Museum of Natural History and Science
400 College Avenue
Lancaster, Pennsylvania 17603
[Contact \[1\] 717/ 358-7188.; Email: allisonbugs@yahoo.com](mailto:allisonbugs@yahoo.com)
E-mail came back as undeliverable

LA = Herbarium
University of California
Box 951606
Los Angeles, California 90095-1606
310/ 825-3620.; Email: agibson@biology.ucla.edu

P = Herbier
Muséum National d'Histoire Naturelle
16 rue Buffon
F-75005 Paris France

[33] 1/ 40 79 33 53

SIV = COULD NOT FIND AN ENTRY IN INDEX HERBARIA

UAC = Herbarium

University of Calgary

Calgary, Alberta T2N 1N4

Canada [1] 403/ 220-5262. Email: ccchinna@acs.ucalgary.ca

E-MAIL RETURNED AS UNDELIVERABLE

UVIC = Herbarium

University of Victoria

P.O. Box 3020 STN CSC

Victoria, British Columbia V8W 3N5 Canada

[1] 250/ 721-7097. Email: gallen@uvic.ca

WTV = no herbaria found

Skipped these foreign entries:

FI = Italy

G = Switzerland

Hal = Germany

MA = Madrid, Spain

LIST OF CONTACTS

Information Requests

AL: Al Schotz, Botanist/Community Ecologist, Alabama Natural Heritage Program. aschotz@alnhp.org.

AR: Theo Witsell, Botanist/Field Ecologist, Arkansas Natural Heritage Commission. Theo@arkansasheritage.org.

IL: Daniel Nickrent, Curator, University of Southern Illinois Herbarium. nickrent@plant.siu.edu.

Steven Hill, Botanist, Illinois Natural History Survey. srhill@inhs.uiuc.edu.

IN: Kirk Larson, Botanist, Hoosier National Forest. kwl Larson@fs.fed.us.

Mike Homoya, Botanist, Division of Nature Preserves, Indiana Department of Natural Resources. mhomoya@dnr.state.in.us.

Eric Knox, Director, Indiana University Herbarium.
herbarium@indiana.edu.

Steve Olson, Botanist, Pike and San Isabel National Forests,
Comanche and Cimarron National Grasslands. solson01@fs.fed.us

MD: Chris Frye, State Botanist, Wildlife and Heritage Service, Maryland
Department of Natural Resources. CFrye@dnr.state.md.us.

NC: Misty Franklin, Botanist, North Carolina Natural Heritage Program.
misty.franklin@ncmail.net.

SC: Julie Hollings, Database Manager, SC Natural Heritage Program.
JulieH@SCDNR.STATE.SC.US.

TN: Janet Rock, Botanist, National Parks Service Great Smoky Mountains
National Park. Janet_Rock@nps.gov.

George Ramseur, Professor Emeritus, University of the South, Sewanee,
TN. gramseur@sewanee.edu.

VT: Bob Popp, Program Botanist, Nongame and Natural Heritage Program,
Vermont Department of Fish and Wildlife. Bob.popp@anr.state.vt.us.

Taxonomy experts:

Gerald Mulligan, Biosystematics Research Centre, Research Branch
Agricultural Canada, Ottawa, retired. mulligan4520@rogers.com.

Derek Munro, Biological information management, National Program on
Environmental Health – Biodiversity, Agriculture and Agri-Food Canada.
MUNRODB@AGR.GC.CA.

John Nelson, A. C. Moore Herbarium, University of South Carolina.
nelson@bio.sc.edu.

Review Requests

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Comanche and Cimarron National Grasslands. solson01@fs.fed.us