

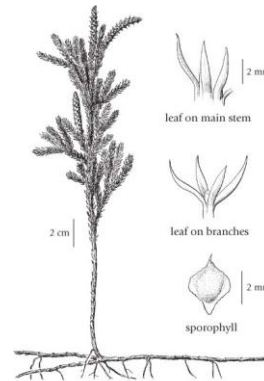
Plant Propagation Protocol for *Lycopodium dendroideum* Michx.

ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/LYDE.pdf>



Lycopodium dendroideum Michx. plant^[15]



Lycopodium dendroideum
Lycopodium dendroideum Michx. structure^[16]

TAXONOMY

Plant Family	
Scientific Name:	Lycopodiaceae ^[1]
Common Names:	Club-moss family ^[1]
Species Scientific Name	
Scientific Name	<i>Lycopodium dendroideum</i> Michx. ^[1]
Varieties	<i>Lycopodium obscurum</i> var. <i>dendroideum</i> (Michx.) D.C. Easton ^[1]
Sub-species	N/A ^[7]
Cultivar	
Common Synonym(s)	<i>Dendrolycopodium dendroideum</i> (Michx.) A. Haines <i>Lepidotis dendroidea</i> (Michx.) P. Beauv. <i>Lycopodium obscurum</i> fo. <i>Dendroideum</i> (Michx.) H.L. Blomq. & Correll <i>Lycopodium obscurum</i> var. <i>dendroideum</i> (Michx.) D.C. Easton ^[1]
Common Name(s)	Groundpine, treelike clubmoss, tree clubmoss, northern tree clubmoss, Princess pine ^{[6][1]}
Species Code (as per USDA Plants database)	LYDE ^[1]

GENERAL INFORMATION

Geographical range	 Washington ^[1]  North America ^[1]
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Ecological distribution	Found in dry to moist forests, bog edges, rocky or sandy places in lowland montane zones; often with a significant moss and debris layers ^[2]
Climate and elevation range	Grows in elevations ranging from 5-2292 meters. Suitable climates include rocky or sandy soils with good drainage and grows well in a variety of wet and dry climates. ^{[3] [11]}
Local habitat and abundance	Typically found in abundances of 40-200 above ground stems in a patch size of 50-200 square meters, which may consist of a single genetic individual. Patches are typically rocky or sandy soils in the presences of other mosses or associated species or in forested areas on north facing slopes. ^{[2][4][5] [11]}
Plant strategy type / successional stage	Disturbances such as post-burn conditions, deforestation, logging, recreational activities through trampling and habitat loss promote growth with a ~0.1% cover. ^{[2][14]}
Plant characteristics	Forb/herb that is a known to have perennial growth patterns. The plant produces erect stems 10-30 cm high that have the lower leaves spread out and leaves along the branches evenly spread in 6-8 vertical rows that are sharply pointed. It also produces strobili sessile (spore cones without stock) at the end of its main branches. ^{[5][11]}
PROPAGATION DETAILS	
Ecotype	N/A ^{[7][12][13]}
Propagation Goal	N/A ^{[7][12][13]}
Propagation Method(SEEDS?)	Sporiphication
Product Type	Propagules by allowing the plants to sporify and transplanting/moving the newly produced germinates.[9]
Stock Type	
Time to Grow	N/A ^[8]
Target Specifications	An evergreen perennial with tree-like, erect stems 12-30cm high. The branches are multi-forked and round, with sharp linear tipped leaves spread out in 6-8 even rows. ^[4]
Propagule Collection Instructions	N/A ^{[8][7][10][13]}
Propagule Processing/Propagule Characteristics	N/A ^{[8][7][10][13]}
Pre-Planting Propagule Treatments	N/A ^{[8][7][10][13]}
Growing Area Preparation / Annual Practices for Perennial Crops	N/A ^{[8][7][10][13]}
Establishment Phase Details	N/A ^{[8][7][10][13]}
Length of Establishment Phase	N/A ^{[8][7][12][13]}
Active Growth Phase	N/A ^{[8][10][12][13]}

Length of Active Growth Phase	N/A ^{[8][7][10][12][13]}
Hardening Phase	N/A ^{[7][10][12][13]}
Length of Hardening Phase	N/A ^{[8][7][10][12][13]}
Harvesting, Storage and Shipping	N/A ^{[8][7][10][12]}
Length of Storage	N/A ^{[7][10][12][13]}
Guidelines for Outplanting / Performance on Typical Sites	N/A ^{[7][10][13]}
Other Comments	Not much information is found on the ecotype and germination of this species since it has yet to be tested in nursery conditions to create its own protocol. ^{[8][7][10][12]}

INFORMATION SOURCES

References	Listed below
Other Sources Consulted	
Protocol Author	Travis Pederson
Date Protocol Created or Updated	05/11/14

[1]-USDA Plant Database, *Lycopodium dendroideum*:

<http://plants.usda.gov/core/profile?symbol=LYDE>

[2]- Flora of North America 1993+, vol. 2; Hickey 1977; Lellinger 1985

<http://www1.dnr.wa.gov/nhp/refdesk/fguide/pdf/lyde.pdf>

[3]- Brian Klinkenberg (2013), E-Flora BC: Electronic Atlas (*Lycopodium dendroideum*)

<http://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Lycopodium%20dendroideum>

[4]- Walter Fertig (Aug. 2009), State species abstract : *Lycopodium dendroideum*

http://www.uwyo.edu/wyndd/ files/docs/reports/speciesabstracts/lycopodium_dendroideum.pdf

[5]- , *Lycopodium dendroideum* : Ground Pine taxonomy,

http://www.flora.dempstercountry.org/0.Site.Folder/Species.Program/Species.php?species_id=Lycopodium

[6]- Elizabet A Nauertz and John C. Zasada, *Lycopodium*: Growth from, morphology, and sustainability of a non-timber forest product(1999), http://www.ncrs.fs.fed.us/pubs/gtr/other/gtr-nc217/gtr_nc217page%20110.pdf

[7]- M.J. Oldham, D.A. Sutherland, G.M. Allen et al., Details for *Lycopodium dendroideum* (Dec. 1991) <http://www.uoguelph.ca/HIMS/details.cfm?HIMSID=61831>

[8]-When does *Lycopodium dendroideum* bloom?(Jan. 2014)

<http://plants.findthedata.org/q/28456/3496/When-does-Tree-Groundpine-Lycopodium-dendroideum-plant-bloom>

[9] Ben Legler, *Lycopodium dendroideum* (2004)

<http://biology.burke.washington.edu/herbarium/imagecollection.php?Genus=Lycopodium&Species=dendroideum>

[10] Harvard Forest: seed bank 2004-2010,

<http://harvardforest.fas.harvard.edu:8080/exist/xquery/data.xq?id=hf105>

[11] Michael Duffy and Carson Parker (May 1999), Consortium of Pacific Northwest Herbaria,

<http://www.pnwherbaria.org/data/results.php?DisplayAs=WebPage&ExcludeCultivated=Y&GroupBy=ungrouped&SortBy=ScientificName&SearchAllHerbaria=Y&QueryCount=1&Genus1=Lycopodium&Species1=dendroideum&Zoom=4&Lat=55&Lng=-135&PolygonCount=0>

[12] GBIF secretariat(Aug. 2013) <http://www.gbif.org/species/110570038>

- [13] Facer-Langendoen (June 1997), Taxon *Lycopodium dendroideum* Michx.
http://vegbank.org/vegbank/views/taxonobservation_detail.jsp?view=detail&wparam=89523&entity=taxonobservation¶ms=89523
- [14] Carolyn L. Parker (July 2008) UAM herbarium *Lycopodium dendroideum*:
<http://arctos.database.museum/guid/UAM:Herb:243723>
- [15] Stuart Higgs, Biodiversity of the Central Coast,
http://centralcoastbiodiversity.weebly.com/uploads/1/4/9/9/14993002/1407761_orig.jpg
- [16] Flora of B.C. Picture: <http://linnet.geog.ubc.ca/Images/Drawings/big/PPLYC010B0.jpg>