Hart's-tongue Fern

Asplenium scolopendrium var. americanum

Photo credits: *Stephen M. Young*

Scientific Name *Asplenium scolopendrium var. americanum* (Fern.) Kartesz & Gandhi

Family Name Aspleniaceae
Spleenwort Family

Did you know?
The American Hart's-tongue fern is listed by the US Fish & Wildlife Service as federally threatened. This is one of only a handful of New York plants protected under the Endangered Species Act. Approximately 90% of the known plants in the US are found right here in New York.

Summary

Protection Threatened in New York State, Threatened federally.

This level of state protection means: listed species are those with: 1) 6 to fewer than 20 extant sites, or 2) 1,000 to fewer than 3,000 individuals, or 3) restricted to not less than 4 or more than 7 U.S.G.S. 7 ? minute topographical maps, or 4) listed as threatened by U.S. Department of the Interior.

This level of federal protection means: Listed as Threatened in the United States by the US Department of Interior.

Rarity G4T3, S2

A global rarity rank of G4T3 means: Vulnerable globally - The subspecies/variety is at moderate risk of extinction due to rarity or other factors; typically 80 or fewer populations or locations in the world, few individuals, restricted range, few remaining acres (or miles of stream), and/or recent and widespread declines. (The species as a whole is apparently secure globally.)
A state rarity rank of S2 means: This plant is threatened/imperiled in New York because of rarity (typically 6-20 populations or few remaining individuals) or is vulnerable to extirpation from New York due to biological factors.

Conservation Status in New York

There are fewer than twenty populations or sub-populations of this federally threatened species in New York. These populations are restricted to the Syracuse area. Most of the populations are currently threatened by various invasive species, but in particular, swallow-wort is a serious problem.

Short-term Trends

Since the legal protection of this species was put in place, the number of populations in New York has remained stable. Within these populations there may be a slight decrease in numbers of individuals due to competition from invasives. At this time, this decrease appears to be negligible, but as these invasive species continue to spread, their impact is likely to be more evident.

Long-term Trends

Prior to protection, a number of large populations were lost. These were mainly impacted by mining operations. Today, new mining operations are not likely in areas where this fern is known.

Conservation and Management

Threats

The most significant threat is swallow-wort (Cynanchum rossicum) and other invasive species. In the past, mining operations were a threat but new mines are not likely in areas where this plant is known.

Conservation Strategies and Management Practices

If population sizes are to be maintained, more effort is needed to reduce the impact of invasive species. Swallow-wort (*Cynanchum rossicum*) removal should be a priority management activity, especially if this is just becoming a problem within a population.

Research Needs

Taxonomy research needs to compare whether any distinction is warranted between the European and American varieties. If these varieties are warranted, then research is needed to determine if all of the New York populations are indeed the American variety. Based on morphology, some of the New York populations key out to the European variety.

Habitat

This fern is typically found in glacial plunge basins on dolomite and other calcareous rocks. These basins typically have a high number of bryophyte species and are often cooler and moister than the surrounding upland areas. The ferns are often found on unstable talus or rock crevices below the basin cliffs (New York Natural Heritage Program 1999). On calcareous rocks in sinkholes, at cave entrances, and on cool, moist talus, always in deep shade (Flora of North America 1993). On limestone rocks and in sink-holes (Gleason and Cronquist 1991). Crevices and cool slopes or sink-holes of dolomite and other calcareous rocks (Fernald 1970).

Associated Ecological Communities

Calcareous Cliff Community
A community that occurs on vertical exposures of resistant, calcareous bedrock (such as limestone or dolomite) or consolidated material; these cliffs often include ledges and small areas of talus.

Calcareous Talus Slope Woodland
An open or closed canopy community that occurs on talus slopes composed of calcareous bedrock such as limestone or dolomite. The soils are usually moist and loamy; there may be numerous rock outcrops.

Hemlock-northern Hardwood Forest
A mixed forest that typically occurs on middle to lower slopes of ravines, on cool, mid-elevation slopes, and on moist, well-drained sites at the margins of swamps. Eastern hemlock is present and is often the most abundant tree in the forest.

Limestone Woodland
A woodland that occurs on shallow soils over limestone bedrock in non-alvar settings, and usually includes numerous rock outcrops. There are usually several codominant trees, although one species may become dominant in any one stand.

Maple-basswood Rich Mesic Forest
A species rich hardwood forest that typically occurs on well-drained, moist soils of circumneutral pH. Rich herbs are predominant in the ground layer and are usually correlated with calcareous bedrock, although bedrock does not have to be exposed. The dominant trees are sugar maple, basswood, and white ash.

Associated Species

Black Maple (*Acer nigrum*)
Red Maple (*Acer rubrum var. rubrum*)
Sugar Maple (*Acer saccharum*)
Mountain Maple (*Acer spicatum*)
Wild Sarsaparilla (*Aralia nudicaulis*)
Canada Wild-ginger (*Asarum canadense*)
Walking-fern Spleenwort (*Asplenium rhizophyllum*)
Maidenhair Spleenwort (*Asplenium trichomanes*)
Southern Lady Fern (*Athyrium filix-femina*)
Yellow Birch (*Betula alleghaniensis*)
Blue Cohosh (*Caulophyllum thalictroides*)
Common Hackberry (*Celtis occidentalis*)
Bulblet Fern (*Cystopteris bulbifera*)
Silvery Spleenwort (*Deparia acrostichoides*)
Glade Fern (*Diplazium pycnocarpon*)
Goldie's Woodfern (*Dryopteris goldiana*)
Evergreen Woodfern (*Dryopteris intermedia*)
Marginal Wood Fern (*Dryopteris marginalis*)
Eastern Helleborine (*Epipactis helleborine*)
Eupatorium rugosum
Herb-robert (*Geranium robertianum*)
Round-leaved Liverleaf (*Hepatica nobilis var. obtusa*)
Dame's-rocket (*Hesperis matronalis*)
Spotted Jewelweed (*Impatiens capensis*)
Pale Jewel-weed (*Impatiens pallida*)
Clayton's Sweetroot (*Osmorhiza claytonii*)
Longstyle Sweetroot (*Osmorhiza longistylis*)

Hophornbeam (*Ostrya virginiana*)
Rock Polypody (*Polypodium virginianum*)
Broad-leaved Goldenrod (*Solidago flexicaulis*)
American Bladdernut (*Staphylea trifolia*)
Canada Yew (*Taxus canadensis*)
Northern White Cedar (*Thuja occidentalis*)
American Basswood (*Tilia americana var. americana*)
Eastern Hemlock (*Tsuga canadensis*)
Colt's Foot (*Tussilago farfara*)

Identification Comments

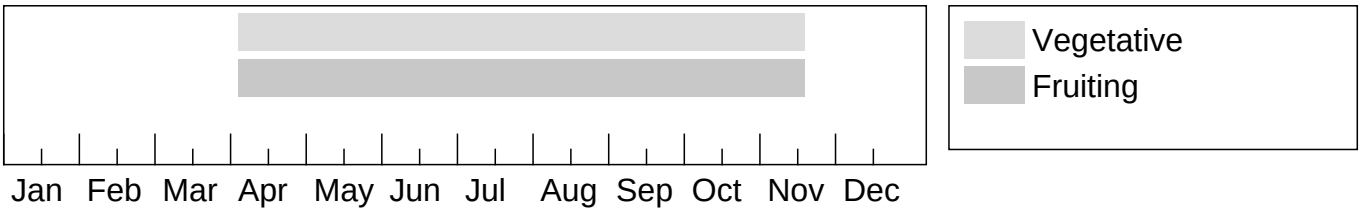
Hart's-tongue fern is a perennial, evergreen fern growing from a shortish, stout, ascending caudex-like rhizome. Fronds are 5-17 inches (10-34 cm) long and auriculate at the base.

Best Life Stage for Identifying This Species

This fern may be identified at any point in the year, as long as snow cover does not bury the plants. Based on its unique features, only the leaf frond is needed for proper identification. Due to its rare nature and federal protection, DO NOT COLLECT. A photo may be used to verify the identification.

The Best Time to See

This unique fern may be identified at any point during the year, as long as the leaves are not covered by snow. If you are trying to find new populations, the best time is in mid-fall after a few frosts have eliminated most other herbaceous plants and before too much snow accumulates. Early spring after the snow melts and before most herbaceous plants reappear is also a good time.



The time of year you would expect to find Hart's-tongue Fern in New York.

Similar Species

The European variety (var. *scolopendrium*) is a larger more robust plant with sori present from the frond tip to more than halfway beyond the frond middle. The fronds are 10-60 (average 30) cm long, with the fruiting portion of the fertile fronds occupying one-third to the full length (average 73%) of the frond. The longest indusia of each frond are linear, 0.17-3.3 (average 1.7) cm long. The stipes have lance-shaped scales that gradually taper to a slender tip. These scales are of mixed widths.

Taxonomy

Kingdom Plantae
└─ **Phylum** Filicinophyta
└─ **Class** Ferns (Filicopsida)
└─ **Order** Filicales
└─ **Family** Aspleniaceae (Spleenwort Family)

Additional Common Names

American Hart's-tongue
American Hart's-tongue Fern

Synonyms

Phyllitis scolopendrium ((L.) Newman)
Phyllitis scolopendrium var. *americana* (Fern.)
Phyllitis scolopendrium var. *americanum* (Fern.)
Scolopendrium vulgare (Small)

Additional Resources

Links

New York Flora Atlas
http://www.newyork.plantatlas.usf.edu/Plant.aspx?id=171
Flora of North America
http://efloras.org/florataxon.aspx?flora_id=1&taxon_id=233500199
USDA Plants Database
http://plants.usda.gov/java/nameSearch?mode=sciname&keywordquery=ASPLENIUM+SCOLOPENDRIUM+VAR+AMERICANUM
NatureServe Explorer
http://natureserve.org/explorer/servlet/NatureServe?searchName=ASPLENIUM+SCOLOPENDRIUM+VAR+AMERICANUM
Google Images
http://images.google.com/images?q=ASPLENIUM+SCOLOPENDRIUM+VAR+AMERICANUM

Best Identification Reference

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