

Vittaria appalachiana - *Heuchera parviflora* var. *parviflora* - *Houstonia serpyllifolia* /
Plagiochila spp. Herbaceous Vegetation

COMMON NAME Appalachian Shoestring Fern - Cave Alumroot - Appalachian Bluet / Liverworts
Herbaceous Vegetation
SYNONYM Southern Blue Ridge Spray Cliff
PHYSIOGNOMIC CLASS Herbaceous Vegetation (V)
PHYSIOGNOMIC SUBCLASS Perennial forb vegetation (V.B)
PHYSIOGNOMIC GROUP Temperate or subpolar perennial forb vegetation (V.B.2)
PHYSIOGNOMIC SUBGROUP Natural/Semi-natural (V.B.2.N)
FORMATION Saturated temperate perennial forb vegetation (V.B.2.N.f)

ALLIANCE *Vittaria appalachiana* - *Heuchera parviflora* Saturated Herbaceous Alliance

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM Palustrine

RANGE

Globally

This community occurs in southwestern North Carolina, northwestern South Carolina, and northeastern Georgia, in the escarpment gorges of the southern Blue Ridge and west of the escarpment in Tennessee.

Great Smoky Mountains National Park

This community was sampled only from the Mount Le Conte quadrangle but is possible on the Cades Cove quadrangle. On Mount Le Conte, it was sampled at Rainbow Falls, Grotto Falls, and Thousand Drips.

ENVIRONMENTAL DESCRIPTION

Globally

This community occurs on saturated rock outcrops associated with the spray of cascades and waterfalls. This community is found on nearly vertical rock surfaces and ledges, slopes, and crevices with shallow soils that are constantly saturated.

Great Smoky Mountains National Park

See above.

MOST ABUNDANT SPECIES

Globally

| <u>Stratum</u> | <u>Species</u> |
|----------------|----------------|
| Herbaceous | variable |
| Nonvascular | variable |

Great Smoky Mountains National Park

| <u>Stratum</u> | <u>Species</u> |
|----------------|----------------|
| See above | |

See above

CHARACTERISTIC SPECIES

Globally

Vittaria appalachiana, *Heuchera parviflora* var. *parviflora*, *Houstonia serpyllifolia*, *Plagiochila* spp.

Great Smoky Mountains National Park

VEGETATION DESCRIPTION

Globally

This community includes herbaceous vegetation on rock substrates associated with waterfalls. Vegetative coverage is sparse to moderate with 50 to 75 percent unvegetated surface (bedrock) possible. Vegetation grows in cracks and on organic accumulations on ledges. It is characterized by a variable but unique assemblage of vascular herbs, algae, and bryophytes, many of which are endemic to this community. Composition of this community varies from location to location, in part due to its insular nature (Zartman and Pittillo 1998). Characteristic species include liverworts (*Bazzania denudata*, *Conocephalum conicum*, *Oxalis montana*, *Pellia epiphylla*, *Pellia neesiana*, *Plagiochila austini*, *Plagiochila caduciloba*, *Plagiochila sharpii* ssp. *sharpii*, *Plagiochila* spp., *Plagiochila sullivantii*, *Riccardia multifida*), mosses (*Bryocrumia vivicolor*, *Dichodontium pellucidum*,

Fissidens osmundioides, *Hyophila involuta*, *Mnium marginatum*, *Oncophorus rauii*, *Plagiomnium affine*, *Plagiomnium carolinianum*, *Pseudotaxiphyllum distichaceum*, *Sphagnum girgensohnii*, *Sphagnum quinquefarium*, *Thalictrum* spp., *Thamnobryum alleghaniense*), ferns (*Adiantum pedatum*, *Asplenium monanthes*, *Asplenium montanum*, *Asplenium trichomanes* ssp. *trichomanes*, *Cystopteris protrusa*, *Grammitis nimbata* (= *Micropolypodium nimbatum*), *Hymenophyllum tayloriae*, *olypodium virginianum*, *Trichomanes boschianum*, *Trichomanes intricatum*, *Vittaria appalachiana*), and other vascular species (*Galax urceolata*, *Heuchera parviflora* var. *parviflora*, *Houstonia serpyllifolia*, *Huperzia porophila*, *Hydrocotyle americana*, *Impatiens capensis*, *Phegopteris connectilis*, *Saxifraga careyana*, *Saxifraga caroliniana*, *Carex biltmoreana*).

Great Smoky Mountains National Park

See above

OTHER NOTEWORTHY SPECIES

No information

CONSERVATION RANK G2

RANK JUSTIFICATION

This community is very limited, known only from a few dozen occurrences, most of which are less than one acre in size, and the largest are only about two acres in size. Most examples are in rugged montane areas and have escaped direct disturbance, though many may have been affected by logging or development on surrounding lands. Water quality declines may have detrimental impacts on this very delicate and easily impacted community. Even limited human visitation has degraded some occurrences.

DATABASE CODE CEGL004302

COMMENTS

Globally

This community varies in composition with no consistent dominant species. Nominal species are either constant or regional endemics. South and west of the Blue Ridge escarpment, this association is less diverse than those occurrences in the central portion of the range. Zartman and Pittillo (1998) found *Thuidium delicatulum*, *Atrichum oerstedianum*, *Houstonia serpyllifolia*, and *Plagiomnium ciliare* to be the most constant species in spray cliff communities sampled from the Chattooga River Watershed in northern Georgia, western North Carolina, and northwestern South Carolina.

Great Smoky Mountains National Park

This community occurs adjacent to deciduous and hemlock cove forests

REFERENCES

Dellinger 1992, Farrar 1998, Nelson 1986, Schafale and Weakley 1990, Weakley and Schafale 1994, Wharton 1978, Zartman and Pittillo 1998