

## *Buellia sharpiana*, Evelyn's Buttons

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## Taxonomy

Kingdom	Phylum	Class	Order	Family
Fungi	Ascomycota	Lecanoromycetes	Caliciales	Caliciaceae

**Scientific Name:** *Buellia sharpiana* Lendemer & R.C.Harris

**Common Name(s):**

- English: Evelyn's Buttons

## Assessment Information

**Red List Category & Criteria:** Vulnerable D2 [ver 3.1](#)

**Year Published:** 2020

**Date Assessed:** July 7, 2020

### Justification:

*Buellia sharpiana* is narrowly endemic to an Anakeesta rock formation in the Great Smoky Mountains National Park, where it occurs at one location and occupies a total area of 8 km<sup>2</sup>. One major negative event, like a large-scale wildfire, could lead to its extirpation or quickly becoming substantially more threatened. Therefore, it is listed as Vulnerable, D2.

## Geographic Range

### Range Description:

This species is only known from two peaks on a single mountain in Great Smoky Mountains National Park of eastern North America, even after a targeted, thorough search of the entire region to locate additional subpopulations (Allen and Lendemer 2016). It only grows on high-elevation, Anakeesta rock outcrops.

### Country Occurrence:

**Native, Extant (resident):** United States; United States (Tennessee)

## Population

The population trends of *Buellia sharpiana* are currently unknown.

**Current Population Trend:** Unknown

## Habitat and Ecology (see Appendix for additional information)

*Buellia sharpiana* grows on high-elevation, Anakeesta rock outcrops, an iron-rich rock type with a very narrow distribution.

**Systems:** Terrestrial

## Use and Trade

Specimen collection is a potential threat to this species.

## Threats (see Appendix for additional information)

Subpopulations of this species are known from popular locations in the most visited national park in the United States. Disturbance from visitors could pose a threat to *Buellia sharpiana*, but further research is needed to determine definitively whether this is the case. Because the species is known from a single ridgeline, it could also be impacted by one event (e.g. wildfire) that would result in the loss of this species. Climate change may pose a threat to this species as well due to its narrow restriction to high-elevation peaks. There is also a risk of specimen collecting for this species.

## Conservation Actions (see Appendix for additional information)

Monitoring the size of the subpopulations in heavily visited areas is essential to establish whether or not visitors are negatively impacting the population size, and if limitation of visitation or access may be warranted. As is the case with all high-elevation endemics, reduction of greenhouse gas emissions globally will reduce the risk of this losing species to climate change.

## Credits

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## Bibliography

Allen, J.L. and Lendemer, J.C. 2016. Climate change impacts on endemic, high-elevation lichens in a biodiversity hotspot. *Biodiversity and Conservation* 25(3): 555-568.

IUCN. 2020. The IUCN Red List of Threatened Species. Version 2020-3. Available at: [www.iucnredlist.org](http://www.iucnredlist.org). (Accessed: 10 December 2020).

Lendemer, J.C. and Harris, R.C. 2013. *Buellia sharpiana* (Physciaceae, Lichenized Ascomycetes), another new species from the Great Smoky Mountains of eastern North America. *Castanea* 78: 148-153.

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## External Resources

For [Supplementary Material](#), and for [Images and External Links to Additional Information](#), please see the Red List website.

## Appendix

### Plant Growth Forms

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Plant Growth Form
LC. Lichen
M. Fungus

### Use and Trade

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

End Use	Local	National	International
Sport hunting/specimen collecting	No	Yes	No

### Threats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Threat	Timing	Scope	Severity	Impact Score
5. Biological resource use -> 5.2. Gathering terrestrial plants -> 5.2.1. Intentional use (species is the target)	Ongoing	Unknown	Unknown	Unknown
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		
6. Human intrusions & disturbance -> 6.1. Recreational activities	Ongoing	Majority (50-90%)	Unknown	Unknown
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		
7. Natural system modifications -> 7.1. Fire & fire suppression -> 7.1.1. Increase in fire frequency/intensity	Future	Whole (>90%)	Unknown	Unknown
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
11. Climate change & severe weather -> 11.1. Habitat shifting & alteration	Future	Whole (>90%)	Unknown	Unknown
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects		

### Conservation Actions in Place

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Conservation Action in Place
In-place research and monitoring
Action Recovery Plan: No

<b>Conservation Action in Place</b>
Systematic monitoring scheme: No
In-place land/water protection
Conservation sites identified: Yes, over entire range
Percentage of population protected by PAs: 91-100
Area based regional management plan: No
Occurs in at least one protected area: Yes
Invasive species control or prevention: Not Applicable
In-place education
Subject to recent education and awareness programmes: Yes
Included in international legislation: No
Subject to any international management / trade controls: No

## Conservation Actions Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

<b>Conservation Action Needed</b>
2. Land/water management -> 2.1. Site/area management
4. Education & awareness -> 4.2. Training
4. Education & awareness -> 4.3. Awareness & communications
5. Law & policy -> 5.1. Legislation -> 5.1.1. International level

## Research Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

<b>Research Needed</b>
1. Research -> 1.5. Threats

## Additional Data Fields

<b>Distribution</b>
Estimated area of occupancy (AOO) (km <sup>2</sup> ): 8
Continuing decline in area of occupancy (AOO): Unknown
Extreme fluctuations in area of occupancy (AOO): No
Estimated extent of occurrence (EOO) (km <sup>2</sup> ): 8

<b>Distribution</b>
Continuing decline in extent of occurrence (EOO): Unknown
Extreme fluctuations in extent of occurrence (EOO): No
Number of Locations: 1
Continuing decline in number of locations: No
Extreme fluctuations in the number of locations: No
<b>Population</b>
Continuing decline of mature individuals: Unknown
Extreme fluctuations: No
Population severely fragmented: No
<b>Habitats and Ecology</b>
Continuing decline in area, extent and/or quality of habitat: Unknown

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