



GET TO KNOW THE PLATEAU

Grimmia anodon

Habitat & Ecology

A sun-blasted rock face in the arid regions of the Colorado Plateau can be a seemingly desolate and inhospitable place for life to settle down on. But with a shift in your eyes, and a little kneeling down to the ground, the complex tiny bryophytes scattered on a rock's surface offer an intriguing example of life's resilience in harsh conditions.

It prefers exposed, calcium rich rocks such as sandstone or limestone in arid to semi-arid regions. It is an important rock dweller and within its tightly packed leaves it offers protection to microinvertebrates such as Oribatid mites, cyanobacteria, and microfungi. As *G. anodon* grows and expands with moisture intake, it slowly erodes away the rock, contributing to soil formation and cycling of nutrients.

Description

Grimmia anodon grows as a small cushion that is dark green to black in color. Its concave-keeled leaves are oblong-ovate to oblong-lanceolate and 0.4-0.8 mm long. At the tips of the leaves are long white awns, 0.1-1.2mm long, which gives the dark cushion a fuzzy white hairy look. The fruiting body is usually present; the seta is curved and short (0.2-0.3mm), and the capsule has no peristome teeth present which makes it easy to distinguish from other species in the *Grimmia* family.

Distribution

Grimmia anodon is widespread and common in Western North America, extending from northern Mexico into Arizona, Utah, and New Mexico, into the mountains of British Colombia, and sparsely into Yukon and Alaska. Aside from some localities around the Great Lakes, it is uncommon in the Eastern United States. For the Colorado Plateau specifically it has been located in areas such as Grand Staircase-Escalante National Monument and Glen Canyon National Recreation Area.



Escalante Slim CC BY-NC

Similar Species

In sterile form, *Grimmia anodon* is difficult to tell apart from another widespread species called *Grimmia plagiopodia*. When fertile, it can also look similar to *Schistidium flaccidum*.

Of Note

Like other mosses, *Grimmia anodon* has the ability to dry out during times of drought. This survival mechanism is called desiccation and it is a crucial adaptation for harsh environments like the ones found on the Colorado Plateau. During desiccation the moss becomes almost completely dormant while matching their internal water content with that of the surrounding humidity.

Rock dwelling mosses are one of many organisms that call rock faces home. *Grimmia anodon* is just a part of the oftentimes colorful rock palettes composed of moss, lichens, fossils, and minerals that you will see interspersed along the unique habitats of the Colorado Plateau.

References

- Grimmia anodon*, Flora of North America, Vol. 27 eFloras.org
- Grimmia anodon* in North America North of Mexico. Ireland, Robert R; Miller, Norton G. The Bryologist. 1982.

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