

Great Smoky Mountains National Park
photographs of

Rhododendron carolinianum - *Rhododendron catawbiense* - *Leiophyllum buxifolium* Shrubland





***Rhododendron carolinianum* - *Rhododendron catawbiense* - *Leiophyllum buxifolium* Shrubland**

***Rhododendron carolinianum* - *Rhododendron catawbiense* - *Leiophyllum buxifolium*
Shrubland**

COMMON NAME Carolina Rhododendron - Catawba Rhododendron – Sand Myrtle Shrubland
SYNONYM Southern Appalachian Heath Bald
PHYSIOGNOMIC CLASS Shrubland (III)
PHYSIOGNOMIC SUBCLASS Evergreen shrubland (III.A)
PHYSIOGNOMIC GROUP Temperate broad-leaved evergreen shrubland (III.A.2)
PHYSIOGNOMIC SUBGROUP Natural/Semi-natural (III.A.2.N)
FORMATION Hemi-sclerophyllous temperate broad-leaved evergreen shrubland (III.A.2.N.b)

ALLIANCE *Rhododendron (catawbiense, carolinianum)* - *Kalmia Latifolia* Shrubland Alliance

CLASSIFICATION CONFIDENCE LEVEL 3
USFWS WETLAND SYSTEM Upland

RANGE
Globally
This community occurs in the Great Smoky Mountains of eastern Tennessee.

Great Smoky Mountains National Park
This community was sampled from the highest elevations of the Mount Le Conte quadrangle and is not expected on the Cades Cove quadrangle. It may occur in other high elevation areas of the Park. On the Mount Le Conte quadrangle this community was sampled from Rocky Spur north of Mount Le Conte; from Clifftop west of the Mount Le Conte summit; and from the Jumpoff, in the vicinity of Mount Kephart.

ENVIRONMENTAL DESCRIPTION
Globally
Great Smoky Mountains National Park
This community occurs on steep ridges, rock outcroppings, and landslides at elevations over 5500 feet, in the spruce - fir zone. High solar irradiation and desiccating winds, in combination with the shallow, nutrient-poor soils, are key environmental factors influencing this community. Locally, vegetation is influenced by seepage areas on steep cliffs and ledges (e.g. southwest portion of the Mount Le Conte summit). This community is known from areas of exposed slate on the steep ridges of Mount Le Conte (Ramseur 1958).

MOST ABUNDANT SPECIES
Globally
Stratum Species
No information

Great Smoky Mountains National Park
Stratum Species
Tall shrub *Rhododendron catawbiense*
Short shrub *Rhododendron carolinianum, Leiophyllum buxifolium*

CHARACTERISTIC SPECIES
Globally
No information

Great Smoky Mountains National Park
Rhododendron carolinianum, Rhododendron catawbiense, Leiophyllum buxifolium, Abies fraseri, Picea rubens, Diervilla sessilifolia, Menziesia pilosa

VEGETATION DESCRIPTION
Globally
No information

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This community has 25 to 100 percent shrub cover and may occur as a dense shrubland, two to four meters tall, or as a shorter,

more open shrubland with areas of exposed rock, scattered mats of prostrate vegetation, and isolated clumps of herbaceous species. The most common shrubs are *Rhododendron carolinianum*, *Rhododendron catawbiense*, and *Leiophyllum buxifolium*, locally dominant in patches and forming a mosaic. Shrubs are less than one meter tall on the steepest, rockiest, most exposed sites, and taller on gentle, more protected sites with greater soil development. Other associated shrubs with minor coverage may include *Abies fraseri*, *Aronia arbutifolia*, *Aronia melanocarpa*, *Diervilla sessilifolia*, *Ilex montana*, *Menziesia pilosa*, *Pieris floribunda*, *Prunus pensylvanica*, *Vaccinium corymbosum*, *Vaccinium erythrocarpum*, and *Viburnum nudum* var. *cassinoides*. Under tall dense shrubs there is little herb cover, but in more open shrublands, on steep cliffs with seepage, herbaceous species may grow in dense patches on ledges and crevices. Herbaceous species such as *Calamagrostis cainii*, *Carex misera*, *Geum radiatum*, *Saxifraga michauxii*, *Solidago glomerata*, *Scirpus cespitosus* are associated with this community on the summits of Mount Le Conte. Thick hummocks of lichens and mosses can occur on flatter sites. Scattered wind-sheared trees of *Picea rubens* or *Abies fraseri* are possible in some examples.

OTHER NOTEWORTHY SPECIES

No information

CONSERVATION RANK G1

RANK JUSTIFICATION

This community is limited in extent, occurring as scattered pockets in the southern Appalachian Mountains, possibly limited to the Great Smoky Mountains. This fragile community is threatened by heavy recreational use.

DATABASE CODE C EGL007876

COMMENTS

Globally

The taxonomic distinctions between *Rhododendron minus* and *Rhododendron carolinianum* is currently uncertain. Some of what is treated here as *Rhododendron carolinianum* may prove to be *Rhododendron minus*. This association contains a portion of the former concept of *Rhododendron carolinianum* Shrubland (CEGL003816), which occurs at lower elevations in areas of quartzite and meta-arkose geology.

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This shrubland grades into vegetation dominated by *Picea rubens* and/or *Abies fraseri*. Particularly on the summit and high slopes of Mount Le Conte, the taxonomic distinction between *Rhododendron minus* and *Rhododendron carolinianum* is uncertain. Some of what is treated here as *Rhododendron carolinianum* may prove to be *Rhododendron minus*. It may be difficult to distinguish the signature of this heath bald type from that of *Kalmia latifolia* - *Rhododendron catawbiense* - (*Gaylussacia baccata*, *Pieris floribunda*, *Vaccinium corymbosum*) Shrubland (CEGL003814), especially at transitional elevations. The alliance may serve as a better mapping unit for these communities.

REFERENCES

Ramseur 1958, Risk 1993, Whittaker 1979