# Guide to the Lichens of Howard County, MD

Richard Orr

Based on Howard County field observations,
supplemented with a variety of copyright material

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**Photos in left column:**
**Top Left:** Smoky-eyed Boulder Lichen
**Top Right:** Mealy Rosette Lichen
**Bottom:** British Soldiers
All photos by Richard Orr

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# Layout

Each species appears on facing pages (photos on left and description on right).

**Common Name** *Latin Name*
*Family*

All Maryland lichens are in the Division ***Ascomycota***

**ID:** Full description of characteristics (including chemical tests) helpful (or unique) in identifying the species shown.

**Habitat:** Substrate and preferences (if any).

**Frequency:** "Common or Uncommon" except as otherwise specified.

**Reproductive Structures:** Technical or morphological features of the reproductive structures helpful in identification.

**Locations:** "Widespread" or "Distribution not yet determined"

**Notes:** Additional useful information.

**References:** BSS, HH, WJ.

See "References" on page 60 for expansion.

## Photos (on left side of page)

Credits for photos are at the bottom of each photo page.

# List of lichens known from Howard County, Maryland

## Asterisk = Species Sheet in Guide

### CRUSTOSE LICHENS

| | | |
|---|---|---|
| *Amandinea* | *punctata* | Tiny button lichen |
| *Buellia* | *spuria* | Sunken button lichen |
| *Buellia* | *stillingiana* | Common button lichen* |
| *Caloplaca* | *cerina* | Gray-rimmed firedot lichen* |
| *Caloplaca* | *citrina* | Mealy firedot lichen* |
| *Caloplaca* | *feracissima* | Sidewalk firedot lichen* |
| *Caloplaca* | *ferruginea* | Red firedot lichen* |
| *Caloplaca* | *flavovirescens* | Sulphur firedot lichen* |
| *Caloplaca* | *holocarpa* | Firedot lichen* |
| *Candelariella* | *efforescens* | Powdery goldspeck lichen* |
| *Candelariella* | *vitellina* | Common goldspeck lichen* |
| *Diploschistes* | *scruposus* | Crater lichen |
| *Graphis* | *scripta* | Common script lichen* |
| *Lecanora* | *allophana* | Brown-eyed rim-lichen* |
| *Lecanora* | *hagenii* | Hagen's rim-lichen* |
| *Lecanora* | *hybocarpa* | Bumpy rim-lichen |
| *Lecanora* | *strobilina* | Mealy rim-lichen* |
| *Lecanora* | *thysanophora* | Maple dust lichen |
| *Lecidella* | *stigmatea* | Rock disk lichen* |
| *Lepraria* | *lobificans* | Fluffy dust lichen* |
| *Micarea* | *peliocarpa* | Shadow dot lichen |
| *Pertusaria* | *paratuberculifera* | Spotted wart lichen* |
| *Pertusaria* | *plittiana* | Rock wart lichen* |

| | | |
|---|---|---|
| *Pertusaria* | *subpertusa* | Mesa wart lichen* |
| *Pertusaria* | *texana* | Texas wart lichen |
| *Pertusaria* | *velata* | Rimmed wart lichen |
| *Porpidia* | *albocaerulescens* | Smoky-eye boulder lichen* |
| *Pyrenula* | *pseudobufonia* | Eastern pox lichen* |
| *Scoliciosporum* | *chlorococcum* | City dot lichen* |
| *Trypethelium* | *virens* | Speckled blister lichen* |
| *Verrucaria* | *nigrescens* | Black stone lichen* |

**FOLIOSE LICHENS**

| | | |
|---|---|---|
| *Candelaria* | *concolor* | Candleflame lichen* |
| *Cetrelia* | *chicitae* | Sea storm lichen* |
| *Cetrelia* | *olivetorum* | Sea storm lichen* |
| *Dermatocarpon* | *luridum* | Streamside stippleback* |
| *Flavoparmelia* | *baltimorensis* | Rock greenshield lichen* |
| *Flavoparmelia* | *caperata* | Common greenshield lichen* |
| *Hypotrachyna* | *livida* | Wrinkled loop lichen |
| *Leptogium* | *lichenoides* | Tattered jellyskin* |
| *Myelochroa* | *aurulenta* | Powdery axil-bristle lichen* |
| *Parmelia* | *saxatilis* | Salted shield lichen |
| *Parmelia* | *squarrosa* | Bottlebrush shield lichen |
| *Parmelia* | *sulcata* | Hammered shield lichen* |
| *Parmotrema* | *crinitum* | Salted ruffle lichen* |
| *Parmotrema* | *hypotropum* | Southern powdered ruffle lichen* |
| *Parmotrema* | *michauxianum* | Unperforated ruffle lichen |
| *Parmotrema* | *perlatum* | Powdered ruffle lichen* |
| *Parmotrema* | *stuppeum* | Powder-edged ruffle lichen |
| *Peltigera* | *praetextata* | Scaly dog lichen* |
| *Phaeophyscia* | *rubropulchra* | Orange-cored shadow lichen* |
| *Physcia* | *aipolia* | Hoary rosette lichen |
| *Physcia* | *americana* | Powdery rosette lichen |
| *Physcia* | *millegrana* | Mealy rosette lichen* |
| *Physcia* | *stellaris* | Star rosette lichen* |
| *Physcia* | *subtilis* | Slender rock rosette lichen |
| *Physconia* | *detersa* | Bottle frost lichen |
| *Platismatia* | *glauca* | Ragbag |
| *Punctelia* | *rudecta* | Rough speckled shield lichen* |
| *Xanthomendoza* | *weberi* | Bare-bottom sunburst lichen* |
| *Xanthoparmelia* | *cumberlandia* | Cumberland rock-shield |

**FRUTICOSE LICHENS**

| | | |
|---|---|---|
| *Cladina* | *subtenuis* | Dixie reindeer lichen* |
| *Cladonia* | *apodocarpa* | Stalkless cladonia* |
| *Cladonia* | *chlorophaea* (group) | Mealy pixie-cup* |
| *Cladonia* | *coniocraea* | Common powderhorn* |
| *Cladonia* | *cristatella* | British soldiers* |
| *Cladonia* | *fimbriata* | Trumpet lichen |
| *Cladonia* | *macilenta* | Lipstick powderhorn* |
| *Cladonia* | *ochrochlora* | Smooth-footed powderhorn* |
| *Cladonia* | *parasitica* | Fence-rail cladonia* |
| *Cladonia* | *peziziformis* | Turban lichen* |
| *Cladonia* | *pleurota* | Red-fruited pixie-cup* |
| *Cladonia* | *pyxidata* | Pebbled pixie-cup* |
| *Cladonia* | *squamosa* | Dragon cladonia* |
| *Ramalina* | *americana* (complex) | Sinewed ramalina* |
| *Ramalina* | *complanata* | Bumpy ramalina* |
| *Usnea* | *ceratina* | Warty beard lichen* |
| *Usnea* | *strigosa* | Bushy beard lichen* |

# SIMPLIFIED KEY TO THE CONSPICUOUS AND COMMON LICHENS OF HOWARD COUNTY, MD

This key is an introductory guide only. Many lichens are similar and there are far more lichen species in Howard County than represented in this key. In order to use the key, one must have a hand lens. One also needs to able to separate crustose, foliose and fruiticose lichens and must recognize the basic reproductive structures found in lichens (soridia, isidia and apothecia). Preliminary identifications using this key should be checked carefully with descriptions and photos found in this guide and/or with one of the reference books listed by this guide.

1a **Lichens crustose** [thallus like a crust, tightly fixed to or within the substrate] 2

2a Crust black or dark brown, like paint on rocks [**Black Stone Lichen**] *Verrucaria nigrescens*

2b Crust and/or spore-producing disks orange or yellow 3

3a Crust dark orange often with small lobes at edges (various substrates) [**Firedot Lichens**] *Caloplaca* spp.

3b Crust bright egg yolk yellow often with small granules on bark or wood [**Powdery Goldspeck Lichen**] *Candelariella efflorescens*

3c Crust bright egg yolk yellow often with small granules on noncalcareous rock **[Common Goldspeck Lichen]** *Candelariella vitellian*

2c Crust grey-green to white, spore-producing structures (if present) not orange 4

4a Crust like cobwebs or granules, without spore-producing structures (various substrates) [**Fluffy Dust Lichen**] *Lepraria lobificans*

4b Crust smooth or embedded in substrate, often with spore-producing structures 5

5a Spore-producing structures squiggly dark lines (bark) [**Common Script Lichen**] *Graphis scripta*

5b Spore-producing structures warty lumps (various substrates) [**Wart Lichens**] *Pertusaria* spp.

5c Spore-producing structures disks 6

6a Disk all black (rock); thallus K+ (yellow) [**Rock disk Lichen**] *Lecidella stigmatea*

6b Disk not black (bark) [**Rim Lichens**] *Lecanora* spp.

6c Disk rim darker than thallus or disk (rock) [**Smokey-eye Boulder Lichen**] *Porpidia albocaerulescens*

1b **Lichens foliose** [thallus like a leaf, with different upper and lower surfaces] 7

7a Thallus brown (no green) 8

8a Jelly like can be dark green when wet on mossy rock [**Tattered jellyskin**] *Leptogium lichenoides*

8b Jelly like can be dark green when wet always at the edge of water on rocks [**Streamside Stipleback**] *Dermatocarpon luridum*

7b Thallus orange to yellowish-orange with orange disks (usually on bark) [**Bare-bottomed Sunburst Lichen**] *Xanthomendoza weberi*

7c Thallus bright yellow, bright yellow disks (in rain washed nutrient-rich environs) [**Candleflame Lichen**] *Candelaria concolor*

7d Thallus yellow-green 9

9a Lobes narrow and linear, < 3mm across (rock) [**Rock-shield Lichens**] *Xanthoparmellia* spp.

9b Lobes broad and rounded, 3-10mm across 10

10a Surface of lobes with eroding powdery soredia – appears sand-blasted (bark) [**Common Greenshield Lichen**] *Flavoparmelia caperata*

10b Surface of lobes with volcano-like pustules (rocks) [**Rock Greenshield Lichen**] *Flavoparmelia baltimorensis*

7e Thallus mineral green, grey, or greenish-brown 11

11a Inside lobes red to reddish orange with soridia and apothecia; short cilia black with white tips (rocks & trees in shaded forest) [**Orange-cored Shadow Lichen**] *Phaeophyscia rubropulchra*

11b Inside lobes white to pale yellowish 12

12a Upper surface and lobe edges with powdery or granular soredia; with or without cups 13

13a Lobes broad and rounded, >4mm wide 14

14a Upper surface with small white pin pricks, soredia on erect lobe edges (bark, mossy rock in shaded forest) [**Sea-storm Lichen**] *Cetrelia olivetorum/C. chicitae*

14b Large white patches of soridia on lobes (bark & rock) [**Hammered Shield Lichen]** *Parmelia sulcata*

14c Upper surface without pricks, soredia and/or isidia on the dissected erect lobe edges, lacks long dark cilia at edges (usually on conifers) [**Ragbag**] *Platismatia glauca*

14d Upper surface without white pricks, soredia on erect lobe edges, long dark cilia at edges (tree bark) [**Southern Powdered Ruffle Lichen**] *Parmotrema hypotropum*

14e Same as 17d except only a few short dark cilia at the edges (bark rarely rocks) [**Powder Ruffle Lichen**] *Parmotrema perlatum*

13b Lobes narrow and linear, <4 mm wide 15

15a Lower surface smooth and shinny, black 16

16a Powdery soredia across surface, pale yellow pigment under soredia (deciduous trees) [**Powdery Axil-bristle Lichen**] *Myelochroa aurulenta*

16b Granular soredia eroding near lobe tips and edges, without pigment (deciduous trees) [**Wrinkled Loop Lichen**] *Hypotrachyna livida*

15b Lower surface black with black rhizines, lobe tips frosted (bark mostly) [**Bottlebrush Frost Lichen**] *Physconia detersa*

15c Lower surface white, lobes thin, spotted with white maculae, soridia marginal (bark) [**Mealy Rosette Lichen**] *Physcia millegrana*

15d Lower surface white, lobes thin, soridia laminal, without spots (bark) [**Powdery Rosette Lichen**] *Physcia americana*

12b Upper surface and lobe edges with finger-like isidia 17

17a Lower surface tan, with small white-spots on lobes; center of thallus with dark isidia (bark & rock) [**Rough Speckled Shield Lichen**] *Punctelia rudecta*

17b Lower surface black, occasionally with a broad white edge 18

18a Lobes broad and rounded, >4mm with long black cilia on edges, isidia dense (bark) [**Salted Ruffle Lichen**] *Parmotrema crinitum*

18b Lobes narrow and linear, < 6 mm, isidia cylindrical, white lines on lobes (bark) **[Shield lichens]** *Parmelia* spp.

12c Upper surface or lobe edges with cup shaped disks; without soredia; lobes very small and narrow 19

19a Lobes with conspicuous white spots (bark & wood) [**Hoary Rosette Lichen**] *Physcia aipolia*

19b Lobes lack conspicuous white spots on surface (bark & wood) **[Star Rosette Lichen]** *Physcia stellaris*

1c **Lichens fruticose** [thallus like a shrub or beard, branches rounded or flattened but without different upper or lower surfaces, fruticose also includes squamules which are small shingle-like (often overlapping) structures 20

20a Thallus with no squamules, highly branched; shrub, tree-like, or hanging (rock or tree)] 21

21a Thallus branches round in cross-section with central cord [**Old Man's Beard]** *Usnea* spp.

21b Thallus branches flat in cross-section without a central cord [Ramalina] *Ramalina* spp.

20b Thallus often with squamules present and standing stalks, or if branch-like flat (various substrates) 22

22a Thallus highly branched, no squamules (soil) [**Dixie Reindeer Lichen**] *Cladina subtenuis*

22b Thallus sparsely branched or not branched, thallus usually with squamules and shorter, <4cm high 23

23a Stalks with red disks at tips 24

24a Stalk not branched(old wood & soil) [**Lipstick Powderhorn**] *Cladonia macilenta*

24b Stalk branched without soredia (various substrates) [**British Soldiers**] *Cladonia cristatella*

23b Stalks with brown disks, or lacking disks 25

25a Stalks in the form of cups 26

26a Soredia, in and on the edges of the cup [**Pebbled Pixie-cup**] *Cladonia pyxidata*

26b Cups covered with rounded areoles [**Mealy Pixie-cup**] *Cladonia chlorophaea*

25b Stalks glandular (scaly) rarely cups (soil or logs in forest) [**Dragon Funnel**] *Cladonia squamosa*

25c Stalks with multiple brown clubs (soil & logs)[**Turban Lichen**] *Cladonia peziziformis*

25d Stalks in the form of tapering tubes, without disks 27

27a Lacks squamules on tube (various substrates) [**Common Powderhorn**] *Cladonia coniocraea*

27b Squamules ascend tube base (various substrates) [**Smooth-footed Powderhorn**] *Cladonia ochrochlora*

20c Usually only squamules present (no stalks) 28

28a Grows on rock or soil, lobes with lower surface white [**Stalkless Cladonia**] *Cladonia apodocarpa*

28b Granular crust over rotting wood [**Fence-rail Cladonia**] *Cladonia parasitica*

## Black Oaks

Okay, not one can write a symphony, or a dictionary,

or even a letter to an old friend, full of remembrance
and comfort.

Not one can manage a single sound though the blue jays
carp and whistle all day in the branches, without
the push of the wind.

But to tell the truth after a while I'm pale with longing
for their thick bodies ruckled with lichen

and you can't keep me from the woods, from the tonnage

of their shoulders, and their shining green hair.

Today is a day like any other: twenty-four hours, a
little sunshine, a little rain.

Listen, says ambition, nervously shifting her weight from
one boot to another -- why don't you get going?

For there I am, in the mossy shadows, under the trees.

And to tell the truth I don't want to let go of the wrists
of idleness, I don't want to sell my life for money,

I don't even want to come in out of the rain.

- Mary Oliver

# CRUSTOSE LICHENS

## Common Button Lichen

*Buellia stillingiana*
Ascomycota
Physciaceae

**TOP:** Triadelphia Reservoir (Big Branch) on bark, 11/28/09, *Richard Orr*

**BOTTOM:** Wilde Lake on bark, 3/27/10, *Richard Orr*

## Common Button Lichen

*Buellia stillingiana*
Ascomycota
Physciaceae

**ID:** A crustose lichen. Base color off-white to gray. Apothecia (black spots) 0.4 to 0.8 mm, flat and black with prominent black margins. Reacts with KOH to produce a deep yellow stain then (usually) slowly developing clusters of needle-shaped red crystals.

**Habitat:** On deciduous trees in Maryland.

**Frequency:** Common

**Reproductive Structures**: Eight spores per ascus, 12-17 x 5-8 um. Walls evenly thickened.

**Locations:** Widespread throughout Howard County.

**Notes:** *Buellia curtisii* is nearly identical and probably occurs in Howard County. This species has more pointed spores extending longer than 17 um.

**References:** BSS, WJ

## Gray-rimmed Firedot Lichen

*Caloplaca cerina*
Ascomycota
Teloschistaceae

Patapsco Valley State Park (Morning Choice Trail) on American Beech, 7/5/11, *Richard Orr*

## Gray-rimmed Firedot Lichen

*Caloplaca cerina*
Ascomycota
Teloschistaceae

**ID:** A crustose lichen. Thallus blue-gray to off-white. The orange to yellow 2 mm or smaller apothecia have gray margins. Apothecia may be pruinose.

**Habitat:** On bark, most often in open woodlands and isolated trees.

**Frequency:** Uncommon

**Reproductive Structures**: Spores 10-17 x 7-8.5 um.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** *Caloplaca ulmorum* is similar but has larger apothecia. *Caloplaca ulmorum* has not yet been recorded from Howard County.

**References:** BSS

## Mealy Firedot Lichen

*Caloplaca citrina*
Ascomycota
Teloschistaceae

Triadelphia Reservoir (Big Branch) on bark, 3/18/11, *Richard Orr*

## Mealy Firedot Lichen

*Caloplaca citrina*
Ascomycota
Teloschistaceae

**ID:** A crustose lichen. Thallus yellow-orange to dark yellow and broken into irregularly shaped areoles that eventually change to a completely sorediate crust. Apothecia rare.

**Habitat:** Found on rock, wood and soil.

**Frequency:** Uncommon

**Reproductive Structures**: Apothecia rare. When present usually with sorediate margins.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** When yellow this species can look like a *Candelariella*. species.

**References:** BSS

## Sidewalk Firedot Lichen

*Caloplaca feracissima*
Ascomycota
Teloschistaceae

Centennial Park on rock, 3/20/11, *Richard Orr*

## Sidewalk Firedot Lichen

*Caloplaca feracissima*
Ascomycota
Teloschistaceae

**ID:** A crustose lichen. The crowded 0.2-0.5 mm apothecia are dull orange to orange-brown with yellow margins. Thallus embedded in the rock and, if visible, appears as a dark gray to light yellow stain.

**Habitat:** Most often found on cement of sidewalks. Also found on mortar and natural limestone.

**Frequency:** Uncommon on sidewalks.

**Reproductive Structures**: Spores ellipsoid 13.5 – 18 um x 6-8 um with a narrow septum.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** This lichen causes old sidewalks to turn yellow.

**References:** BSS

## Red Firedot Lichen

*Caloplaca ferruginea*
Ascomycota
Teloschistaceae

West Friendship Park on bark, 10/7/11, *Richard Orr*

## Red Firedot Lichen

*Caloplaca ferruginea*
Ascomycota
Teloschistaceae

**ID:** A crustose lichen with thallus not visible (hidden within the bark) with only the rusty red-orange apothecia showing.

**Habitat:** On bark

**Frequency:** Uncommon

**Reproductive Structures**: Spores are 12-18 um by 6-10 um.

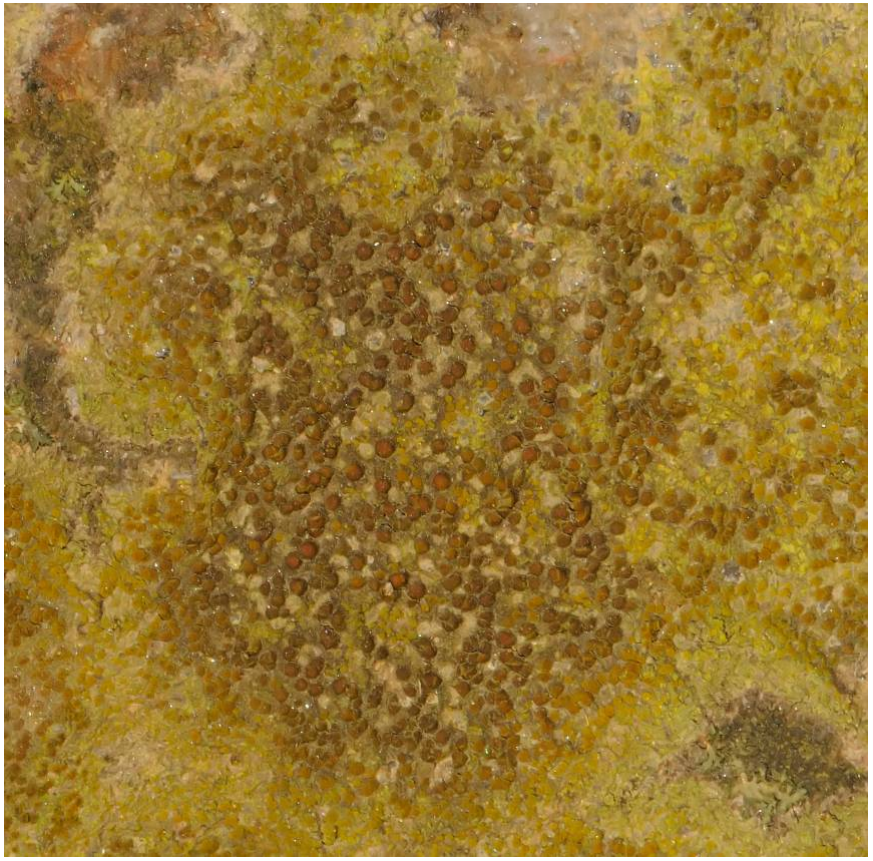
**Locations:** Distribution not yet determined for Howard County.

**Notes:** No other bark *Caloplaca* species in our area has rusty red-orange apothecia.

**References:** BSS

## Sulphur Firedot Lichen

*Caloplaca flavovirescens*
Ascomycota
Teloschistaceae



Howard County Fairgrounds on rock, 10/9/11, *Richard Orr*

## Sulphur Firedot Lichen

*Caloplaca flavovirescens*
Ascomycota
Teloschistaceae

**ID:** A smooth yellow crustose lichen with numerous orange to brownish-orange disks (apothecia). Margins of the apothecia same color as the thallus.

**Habitat:** Rocks containing calcium, rarely concrete.

**Frequency:** Uncommon

**Reproductive Structures**: Apothecia are 0.4 - 0.8 mm in diameter.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** This lichen reacts to KOH by turning a deep purple indicating the presence of anthraquinones in the lichen.

**References:** BSS, WJ

## Common Tree Firedot Lichen

*Caloplaca holocarpa*
Ascomycota
Teloschistaceae

University of Maryland Central Farm environs on bark, 2/5/11, *Richard Orr*

## Common Tree Firedot Lichen

*Caloplaca holocarpa*
Ascomycota
Teloschistaceae

**ID:** A crustose lichen. The 0.3-0.5 mm apothecia are light to dark orange and usually crowded. Rim of apothecia are the same color as the center. Thallus embedded in the bark and cannot be seen or appears as a light white to gray stain.

**Habitat:** On bark or wood that is low in acidity (e.g. maple).

**Frequency:** Uncommon

**Reproductive Structures**: Spores are 10-13 um x 5-7 um (small and broad).

**Locations:** Distribution not yet determined for Howard County.

**Notes:** There are other species of orange-colored *Caloplaca* that likely occur in Howard County but most are either found on rocks or, if bark, the rim of the apothecia are of a different color.

**References:** BSS, WJ

## Powdery Goldspeck Lichen

*Candelariella efflorescens*
Ascomycota
Candelariaceae

Schooly Mill Park on bark, 3/18/10, *Richard Orr*

## Powdery Goldspeck Lichen

*Candelariella efflorescens*
Ascomycota
Candelariaceae

**ID:** A crustose lichen. A yellow powdery looking mass on bark. Lichen body is a collection of round flattened structures smaller than 0.2 mm in diameter with the edges covered with powder-like soridia.

**Habitat:** On bark or wood.

**Frequency:** Very common on tree bark.

**Reproductive Structures**: Usually without apothecia but when present the apothecia are smaller than 0.5 mm. Contains 32 spores per ascus. Reproduces mostly through soridia.

**Locations:** Widespread throughout Howard County.

**Notes:** When you find yellow, powder-like lichen on bark in Howard County it is most likely this species. If it is on rock it is likely *Candelariella vitellina*.

**References:** BSS, WJ

## Common Goldspeck Lichen

*Candelariella vitellina*
Ascomycota
Candelariaceae

Wilde Lake on rock, 3/18/10, *Richard Orr*

## Common Goldspeck Lichen

*Candelariella vitellina*
Ascomycota
Candelariaceae

**ID:** A crustose lichen. A yellow lichen on rock. Lichen body is a collection of little cushions of flattened granules – often with slightly scalloped margins.

**Habitat:** Noncalcareous rocks in full sun, especially on granitic rocks. Also found on wood and rarely on bark.

**Frequency:** Very common on rocks, less so on other substrates.

**Reproductive Structures**: Apothecia, usually present, are yellow flat disks, 0.5-1.5 mm in diameter - often crowded together. Spores are 9-15 by 4-6.5 um. Each individual spore contains two round oil drops making the spore appear 2-celled under the microscope.

**Locations:** Widespread throughout Howard County where noncalcareous rocks are exposed to sunlight.

**Notes:** When you find a yellow, crustose lichen on rock in Howard County it is most likely this species. If it is on bark it is likely *Candelariella efforescens*.

**References:** BSS, WJ

## Common Script Lichen

*Graphis scripta*
Ascomycota
Graphidaceae

Schooly Mill Park on bark of American Hornbeam, 3/18/10, *Richard Orr*

## Common Script Lichen

*Graphis scripta*
Ascomycota
Graphidaceae

**ID:** A crustose lichen. The thallus is contained within the bark tissue and can be hard to see. On smooth barked trees the thallus is more obvious and forms a circular, off-white to grey patch. Lirellae (the black squiggly lines) range from 1-7 mm long and 0.15-0.3 mm wide. The lirellae can be unbranched or branched one or two times.

**Habitat:** On bark of all types of trees – usually in shade.

**Frequency:** Common but inconspicuous except on smooth barked trees.

**Reproductive Structures**: Lirellae; spores 20-70 um by 6-10 um.

**Locations:** Widespread throughout Howard County.

**Notes:** The common name is derived from the black scribble-like appearance of the lirellae (linear apothecia).

**References:** BSS

## Brown-eyed Rim-Lichen

*Lecanora allophana*
Ascomycota
Lecanoraceae

Woodbine environs on bark, 3/01/11, *Richard Orr*

## Brown-eyed Rim-Lichen

*Lecanora allophana*
Ascomycota
Lecanoraceae

**ID:** A crustose lichen with a thin, white to grayish-white thallus. The apothecia are large for a rim-lichen (up to 2 mm wide) and are often constricted at the base.

**Habitat:** On bark

**Frequency:** Uncommon

**Reproductive Structures**: Spores large 13-19 um x 6-11 um.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** There are a number of other *Lecanora* species in Howard County but none have such large brown apothecia.

**References:** BSS

## Hagen's Rim-Lichen

*Lecanora hagenii*
Ascomycota
Lecanoraceae

Mt. Albert Drive on pine bark, 3/19/11, *Richard Orr*

## Hagen's Rim-Lichen

*Lecanora hagenii*
Ascomycota
Lecanoraceae

**ID:** A crustose lichen. Thallus very thin or not visible. The small (0.4 -0.7 mm) apothecia are brown or greenish and strongly pruinose.

**Habitat:** On bark and wood; rarely peat.

**Frequency:** Uncommon

**Reproductive Structures**: The ellipsoid spores are 7-14 um x 4.5-7.5 um.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** The taxonomic status of this species is still in question. The name applies to all small, bark-inhabiting rim-lichens with a disappearing thallus, pruinose apothecia, and KOH- reaction.

**References:** BSS

## Mealy Rim-Lichen

*Lecanora strobilina*
Ascomycota
Lecanoraceae

Rockburn Branch Park on bark, 2/6/11, *Richard Orr*

## Mealy Rim-Lichen

*Lecanora strobilina*
Ascomycota
Lecanoraceae

**ID:** A crustose lichen. Thallus very thin usually a pale yellowish to grayish green, cracked and soon becoming granular. The small (0.4 -0.9 mm) flat or slightly convex apothecia are a waxy light yellow with the margin of the same color but distinctively granular or sorediate.

**Habitat:** On bark and wood in sunny locations.

**Frequency:** Uncommon

**Reproductive Structures**: The narrow ellipsoid spores are 10-16 um x 3.5-5 um.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** There are likely other species of *Lecanora* in Howard County that are similar *to Lecanora strobilina*. However, none would have a mealy rim on a light-yellow apothecia.

**References:** BSS

## Disk Lichen

*Lecidella stigmatea*
Ascomycota
Lecanoraceae

Patapsco Valley State Park (Daniels) on rock, 6/11/11, *Richard Orr*

## Disk Lichen

*Lecidella stigmatea*
Ascomycota
Lecanoraceae

**ID:** A crustose lichen. The dirty gray to yellowish-white thallus can range from very thin to well-developed. The 0.4 to 1.2 mm apothecia are usually black. KOH+ yellow reaction.

**Habitat:** Rock -- usually calcium-rich rocks; especially sandstone.

**Frequency:** Uncommon

**Reproductive Structures**: Spores are 10 -16 um x 6-9 um.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** Although easily mistaken for a *Lecidea* or *Porpidia* in the field the positive KOH+ yellow response will clinch the identification.

**References:** BSS, WJ

## Fluffy Dust Lichen

*Lepraria lobificans*
Ascomycota
Stereocaulaceae

**TOP:** Troy Hill property on pine bark, 3/19/10, *Richard Orr*

**BOTTOM:** Chanconas property on stone railroad bridge, 4/2/10, *Richard Orr*

## Fluffy Dust Lichen

*Lepraria lobificans*
Ascomycota
Stereocaulaceae

**ID:** A thick fluffy yellowish-green to pale green crustose lichen covered with soredia.

**Habitat:** Various, bases of trees, mosses, shaded rocks, etc.

**Frequency:** Very common

**Reproductive Structures**: Apothecia not present, with a cottony layer of soredia.

**Locations:** Widespread throughout Howard County.

**Notes:** This is one of the most common lichens in Howard County.

**References:** BSS, WJ

## Spotted Wart Lichen

*Pertusaria paratuberculifera*
Ascomycota
Pertusariaceae

Wilde Lake on bark, 3/24/10, *Richard Orr*

## Spotted Wart Lichen

*Pertusaria paratuberculifera*
Ascomycota
Pertusariaceae

**ID:** A crustose lichen. Base color pale greenish-grey and covered with white maculae and large (1-2.5 mm) crowded warts with a small hole or holes at the top of the warts.

**Habitat:** On deciduous trees rarely conifers and rocks.

**Frequency:** Uncommon

**Reproductive Structures**: As with all Wart Lichens (genus *Pertusaria*), the warts contain buried modified apothecia. For *P. paratuberculifera* the asci contain 8 spores. The spores are lined up in a row within the asci. Spores have smooth walls and measure 50-130 x 25-45 um.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** The Wart Lichens (*Pertusaria* species) are a large diverse group. Species identification without microscopic examination of the apothecia is questionable. Additional species of *Pertusaria* likely occur in Howard County.

**References:** BSS

## Rock Wart Lichen

*Pertusaria plittiana*
Ascomycota
Pertusariaceae

Patapsco Valley State Park (Henryton), 10/27/09, *Richard Orr*

## Rock Wart Lichen

*Pertusaria plittiana*
Ascomycota
Pertusariaceae

**ID:** A crustose lichen. Base color grey and often cracked into areoles. The warts are usually flattened with vertical to slightly sloping sides with a small white-colored hole or holes at the top of the warts. It is the only wart lichen in Maryland that is fertile and found on rocks.

**Habitat:** On siliceous rocks in shaded forests.

**Frequency:** Uncommon

**Reproductive Structures**: As with all Wart Lichens (genus *Pertusaria*), the warts contain buried modified apothecia. For *P. plittiana* the asci contain 2 spores (but they are often aborted). The spores have rough double walls and measure 85-150 x 25-70 um.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** The Wart Lichens (*Pertusaria* species) are a large diverse group. Species identification in the field without microscopic examination of the apothecia is difficult. Additional species of *Pertusaria* likely occur in Howard County.

**References:** BSS

## Mesa Wart Lichen

*Pertusaria subpertusa*
Ascomycota
Pertusariaceae

University of Maryland Central Farm environs on bark, 2/5/11, *Richard Orr*

## Mesa Wart Lichen

*Pertusaria subpertusa*
Ascomycota
Pertusariaceae

**ID:** A crustose lichen. The pale to yellowish gray thallus can be of various thickness from thin to moderately thick. Mesa-shaped (0.4 mm to 2.0 mm) fruiting warts usually common. Each fruiting wart with multiple ostioles (holes) that connect to the apothecia hidden within the wart.

**Habitat:** On bark in open field or in shaded forests.

**Frequency:** Uncommon

**Reproductive Structures**: As with all Wart Lichens (genus *Pertusaria*), the warts contain buried modified apothecia. The spores of *P. subpertusa* have thick layered walls and measure 170-350 x 40-65 um.

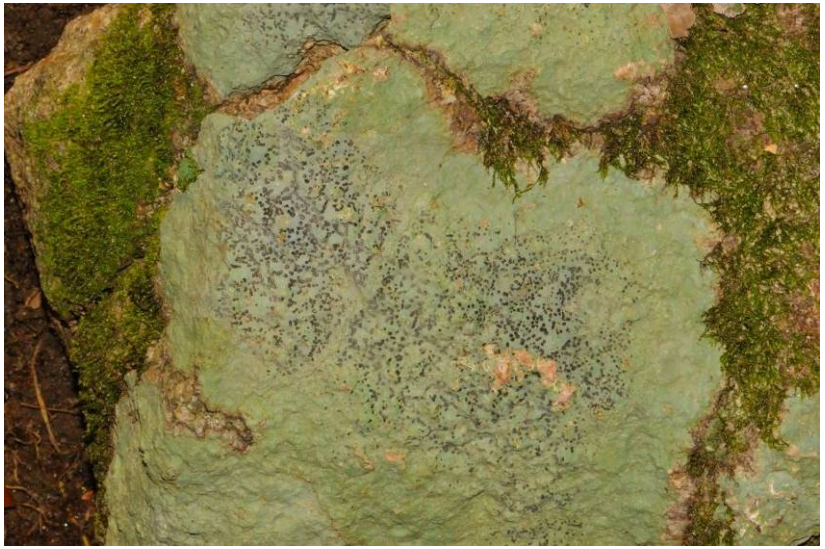
**Locations:** Distribution not yet determined for Howard County.

**Notes:** The Wart Lichens (*Pertusaria* species) are a large diverse group. Species identification in the field without microscopic examination of the apothecia is difficult. Additional species of *Pertusaria* well likely turn up in Howard County.

**References:** BSS

## Smoky-eyed Boulder Lichen

*Porpidia albocaerulescens*
Ascomycota
Lecideaceae



**Top:** Patapsco Valley State Park on rock, 10/18/11, *Richard Orr*

**Bottom:** Schooley Mill Park on rock, 3/18/10, *Richard Orr*

## Smoky-eyed Boulder Lichen

*Porpidia albocaerulescens*
Ascomycota
Lecideaceae

**ID:** A pale greenish-gray to creamy-gray crustose lichen on rock. Thallus smooth or with fine cracks. Apothecia are 0.8 – 2.0 mm, with frosted (pruinose) dark gray centers with rims that are distinctly darker – often black.

**Habitat:** On siliceous rocks in the shade.

**Frequency:** Very common

**Reproductive Structures**: Apothecia almost always present. Spores 18-21 x 8-12 um.

**Locations:** Found throughout Howard County.

**Notes:** This lichen becomes greener when wet or in an area of high humidity (near streams). *Porpidia crustulata* (Concentric boulder lichen) is similar and likely occurs in Howard County. In *P. crustulata* the apothecia form concentric rings.

**References:** BSS

Schooley Mill Park on rock, 3/18/10, *Richard Orr*

## Eastern Pox Lichen

*Pyrenula pseudobufonia*
Ascomycota
Pyrenulaceae

**Top & Bottom:** Troy Hill on bark, 3/19/10, *Richard Orr*

## Eastern Pox Lichen

*Pyrenula pseudobufonia*
Ascomycota
Pyrenulaceae

**ID:** A thin crustose lichen embedded in bark of broad-leaf trees. The thallus may be invisible on trees with thick bark. On smooth barked trees the thallus may appear as a slight discoloration. Perithecia often abundant and scattered; appearing as dark pox-like structures on the bark.

**Habitat:** On bark of shaded deciduous trees – usually oak, beech and holly.

**Frequency:** Uncommon and inconspicuous

**Reproductive Structures**: One of the most common lichens with perithecia found on bark in Maryland. The lens-shaped spores appear 4-celled (oil drops) 13-22 x 8-11 um.

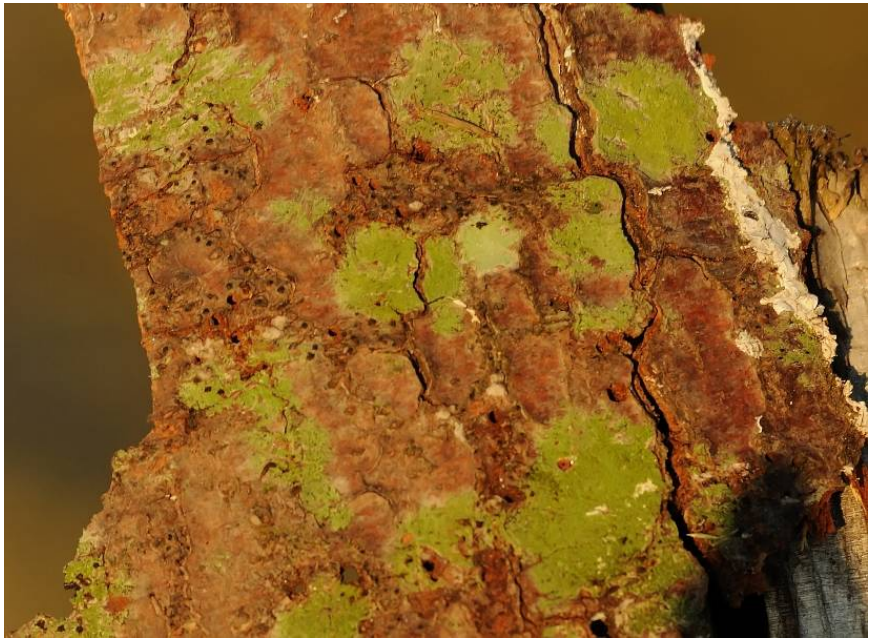
**Locations:** Distribution not yet determined for Howard County.

**Notes:** The common name is derived from the dark pox-like perithecia.

**References:** BSS

## City Dot Lichen

*Scoliciosporum chlorococcum*
Ascomycota
Scoliciosporaceae



West Friendship Park on bark, 10/7/11, *Richard Orr*

## City Dot Lichen

*Scoliciosporum chlorococcum*
Ascomycota
Scoliciosporaceae

**ID:** A dark green, granular (but not soridate) crustose lichen with dark, shiny, convex to hemispherical apothecia.

**Habitat:** Wood and bark

**Frequency:** Uncommon

**Reproductive Structures**: Spores are curved and tapering with one end fatter than the other (18-35 um x 3-5 um).

**Locations:** Distribution not yet determined for Howard County.

**Notes:** This lichen is pollution tolerant and thus can be present in the more urban areas of Howard County.

**References:** BSS

## Speckled Blister Lichen

*Trypethelium virens*
Ascomycota
Trypetheliaceae

Howard County Conservancy (Mt. Pleasant) on bark, 10/8/11, *Richard Orr*

## Speckled Blister Lichen

*Typethelium virens*
Ascomycota
Typetheliaceae

**ID:** An olive to yellowish-brown stain-like crustose lichen with clusters of black perithecia on warts (pseudostromata).

**Habitat:** On the bark of living trees with green inner bark tissues such as holly, young oaks, and beech.

**Frequency:** Uncommon

**Reproductive Structures**: Spores 8 – 12 celled.

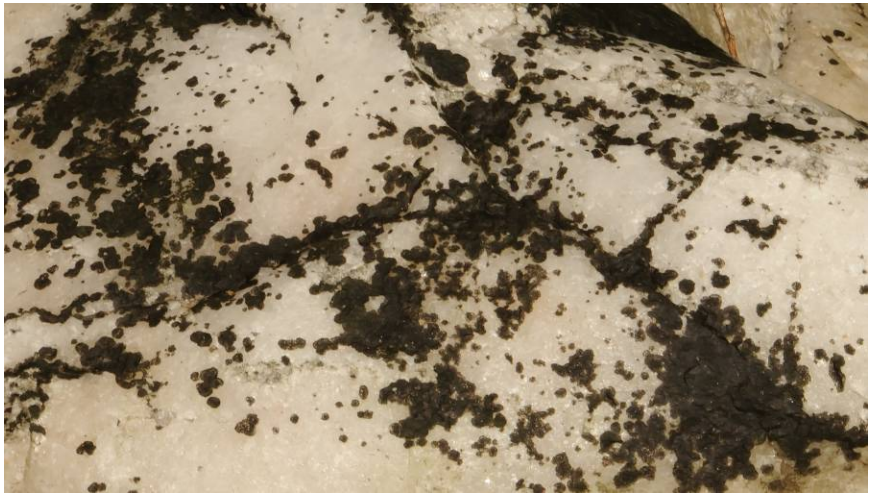
**Locations:** Distribution not yet determined for Howard County.

**Notes:** Suspected of being at least partially parasitic on the host tree since it only occurs on living bark.

**References:** BSS

## Black Stone Lichen

*Verrucaria nigrescens*
Ascomycota
Verrucariaceae



**Top:** Patapsco Valley State Park (Marriottsville) on rock, 3/24/10, *Richard Orr*

**Bottom:** Manor Woods on quartzite, 10/21/11, *Richard Orr*

## Black Stone Lichen

*Verrucaria nigrescens*
Ascomycota
Verrucariaceae

**ID:** A thin black to dark-brown lichen embedded in rock.

**Habitat:** On rock

**Frequency:** Common

**Reproductive Structures**: Perithecia entirely or mostly immersed in thallus. Spores 14-24 by 7-11 um.

**Locations:** Widespread in Howard County.

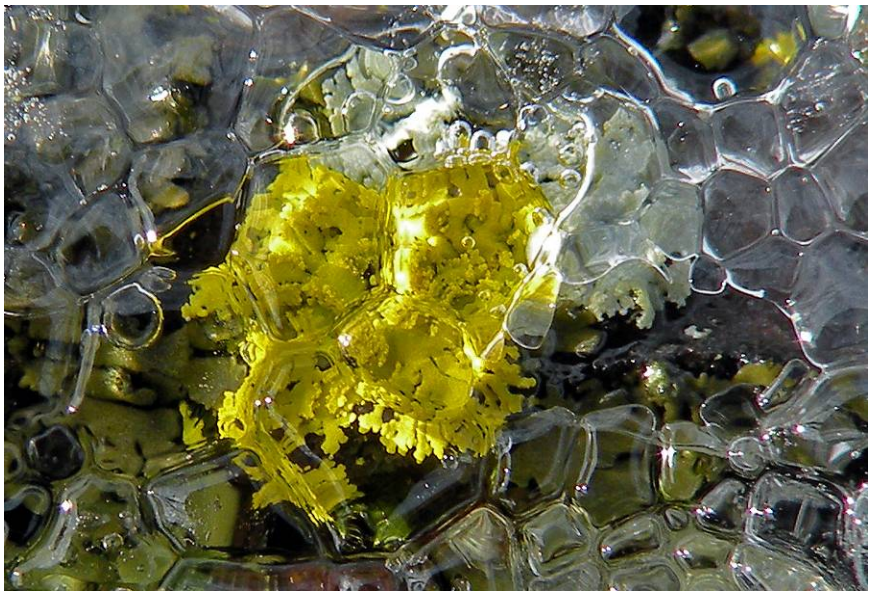
**Notes:** Looks like dark paint on rocks.

**References:** BSS

# FOLIOSE LICHENS

## Candleflame Lichen

*Candelaria concolor*
Ascomycota
Candelariaceae



Centennial Park on tree trunk, 1/19/11, *Bonnie Ott*

## Candleflame Lichen

*Candelaria concolor*
Ascomycota
Candelariaceae

**ID:** A small foliose lichen (2-10 mm) with very small lobes (0.1 to 0.3 mm) and granular soredia. Upper surface a greenish lemon-yellow color. Lower surface white with a few white rhizines.

**Habitat:** Most often found on nutrient-rich bark but occasionally on other nutrient-rich substrates as well.

**Frequency:** Common

**Reproductive Structures**: Apothecia rare – reproduction mainly through the soridia.

**Locations:** Widespread in Howard County.

**Notes:** Small lobes, soredia and bright lemon-yellow color are distinctive. The crustose lichen *Candelariella efflorescens* which lacks lobes and is entirely covered with masses of soredia may look like it from a distance. *Candelaria fibrosa* (Fringed Candleflame Lichen) is similar in that it has small lobes and bright lemon-yellow color but unlike *C. concolor* has numerous white rhizines on the lower surface often sticking out from under the lobe margins and numerous dark yellow apothecia approaching 2 mm in diameter. *Candelaria fibrosa* has not yet been reported from Howard County but likely occurs in the county.

**References:** BSS, HH, WJ

## Sea-storm Lichen

*Cetrelia chicitae/olivetorum*
Ascomycota
Parmeliaceae

Patapsco Valley State Park (Daniels) on deciduous tree, 1/6/10, *Richard Orr*

## Sea-storm Lichen

*Cetrelia chicitae/olivetorum*
Ascomycota
Parmeliaceae

**ID:** A foliose lichen. A greenish-gray lichen covered with tiny numerous white pits (pseudocyphellae*). Lobes ruffled and ascending. White granular soredia on edge of lobes. Lower surface of lichen blackish in center becoming browner near edge. The black rhizines are usually sparse.

**Habitat:** On bark or mossy rocks.

**Frequency:** Common

**Reproductive Structures**: Usually without apothecia. Reproduce via soredia.

**Locations:** Widespread in Howard County.

**Notes:** The uplifted edges of the lobes reminds one of foam on ocean waves -- thus the English name. Separation of the two species can only be done using sodium hypochlorite (liquid laundry bleach) – the flesh of *C. chicitae* turns red while the flesh of *C. olivetorum* does not react to bleach.

* Pseudocyphellae allows for the exchange of gasses in the lichen.

**References:** BSS, HH, WJ

## Streamside Stippleback

*Dermatocarpon luridum*
Ascomycota
Verrucariaceae

**Top:** Patapsco Valley State Park on rock in river, 10/18/11, *Richard Orr*

**Bottom:** Middle Patuxent Environmental Area on rock, 2/27/11, *Richard Orr*

## Streamside Stippleback

*Dermatocarpon luridum*
Ascomycota
Verrucariaceae

**ID:** Thallus green when wet becoming brownish gray when dry. Lobes (7-20 mm) overlapping and attached to the rock at several points.

**Habitat:** Siliceous rock in and along streams.

**Frequency:** Uncommon

**Reproductive Structures**: The tiny black apothecia are embedded in the lichen.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** This is one of a very few foliose lichens that is found in, or next to, flowing water.

**References:** BSS, HH, WJ

## Rock Greenshield Lichen

*Flavoparmelia baltimorensis*
Ascomycota
Parmeliaceae

Patapsco Valley State Park (Marriottsville) on rock, 3/24/10, *Richard Orr*

## Rock Greenshield Lichen

*Flavoparmelia baltimorensis*
Ascomycota
Parmeliaceae

**ID:** A light yellow-green foliose lichen with rounded lobes. Lobes are 2-8 mm wide. The upper surface of the lobes are covered with tiny volcano-like (globose) pustules (isidia). Lobes black below (brown at margins) with non-branching rhizines.

**Habitat:** Almost always on exposed rocks in either sun or shade, rarely found on bark.

**Frequency:** Uncommon

**Reproductive Structures**: Usually no apothecia. Reproduce via isidia.

**Locations:** Range in Howard County unknown but limited to outcroppings of rocks.

**Notes:** May be mistaken for the very common *Flavoparmelia caperata* which is usually found on bark but sometimes rock. *F. caperata* lacks the volcano-like pustules (isidia) and reproduces via granulated-like soridia. *Xanthoparmelia* species are also similar but they have narrower more angulated lobes.

**References:** BSS, HH

## Common Greenshield Lichen

*Flavoparmelia caperata*
Ascomycota
Parmeliaceae

Alpha Ridge Park on bark, 3/24/10, *Richard Orr*

## Common Greenshield Lichen

*Flavoparmelia caperata*
Ascomycota
Parmeliaceae

**ID:** A light yellow-green foliose lichen with rounded lobes. Lobes are 3-8 mm wide. The upper surface of the lobes are covered with large or small irregular patches of granular soredia that have burst through the thallus via pustules. Lobes black below (brown at margins) with non-branching rhizines.

**Habitat:** Almost always on bark in either sun or shade, rarely found on rock.

**Frequency:** Very common, maybe the most conspicuous foliose lichen in the county.

**Reproductive Structures**: Usually no apothecia. Reproduce via soredia.

**Locations:** Widespread in Howard County.

**Notes:** May be mistaken for *Flavoparmelia baltimorensis* which is usually found on rock but sometimes bark. *F. baltimorensis* lacks the granulated-like soridia and instead has tiny volcano-like pustules (isidia). Also the thallus of *F. baltimorensis* is never wrinkled as is common for *F. caperata*. *Xanthoparmelia* species are also similar but they have narrower more angulated lobes.

Healthy individuals of this species grow approximately 5 mm in diameter per year.

**References:** BSS, HH, WJ

## Tattered Jellyskin

*Leptogium lichenoides*
Ascomycota
Collemataceae

Woodbine environs on mossy rock, 3/1/11, *Richard Orr*

## Tattered Jellyskin

*Leptogium lichenoides*
Ascomycota
Collemataceae

**ID:** Dark brown foliose lichen with raised 1-4 mm jelly-like lobes. The wetter they are the more jelly-like they become. Lobes have finely divided edges (isidia-like).

**Habitat:** Mossy calcareous rock in deep shade.

**Frequency:** Uncommon

**Reproductive Structures**: The common concave apothecia are reddish-brown and measure 0.2 - 0.7 mm.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** This small and inconspicuous lichen is reported to be widespread and common. It likely occurs more often in Howard County than the current records suggest. *Leptogium cyanescens* (Blue Jellyskin) is similar but has a blue-gray thallus. The Blue Jellyskin has not yet been found in Howard County but most likely is present. Several other species of *Leptogium* also likely occur in the county.

**References:** BSS, HH, WJ

## Powdery Axil-bristle Lichen

*Myelochroa aurulenta*
Ascomycota
Parmeliaceae

Chaconas Property on bark, 4/2/10, *Richard Orr*

## Powdery Axil-bristle Lichen

*Myelochroa aurulenta*
Ascomycota
Parmeliaceae

**ID:** A pale-gray to blue-gray foliose lichen with irregularly branched lobes that are rounded at the apex. Lobes are 2-4 mm wide. The upper surface of the lobes with postulate soredia bunched together. Lobes have marginal black cilia mostly concentrated in the lobe axils. Lobes black below with non-branching rhizines. Medulla beneath soredia yellow or orange, elsewhere white.

**Habitat:** Usually found on bark of deciduous trees, especially oak and maples, rarely found on rock.

**Frequency:** Uncommon

**Reproductive Structures**: Usually no apothecia. Reproduce mainly via soredia.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** The common name “Axil-bristle” comes from the short black unbranched cilia found in the lobe axils and sometimes on the margins.

**References:** BSS, HH

## Hammered Shield Lichen

*Parmelia sulcata*
Ascomycota
Parmeliaceae

Woodbine environs on bark, 3/1/11, *Richard Orr*

## Hammered Shield Lichen

*Parmelia sulcata*
Ascomycota
Parmeliaceae

**ID:** Thallus bluish-gray in color often with browning edges – rarely entirely brown. Lobes 2-5 mm wide and covered with a network of white ridges made up of powdery soredia. Thallus KOH+ first yellow then changing to blood-red.

**Habitat:** Usually found on bark, less common on other substrates.

**Frequency:** Uncommon

**Reproductive Structures**: Apothecia rare.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** *Parmelia squrrosa* (Bottlebrush Shield Lichen) is also present in Howard County. It differs from *P. sulcata* by having an all gray thallus without an extensive network of ridges and in having both isidia and apothecia.

**References:** BSS, HH

## Salted Ruffle Lichen

*Parmotrema crinitum*
Ascomycota
Parmeliaceae

Troy Hill on bark, 3/19/10, *Richard Orr*

## Salted Ruffle Lichen

*Parmotrema crinitum*
Ascomycota
Parmeliaceae

**ID:** Loosely attached pale greenish-gray foliose lichen with dense black (often cilia-like) isidia on the surface. The upturned lobes are 6-12 mm wide with cilia common on lobe margins. Lobes black below becoming brown at margins. Rhizines on the underside only at center, not along the margin.

**Habitat:** Usually found on bark of deciduous trees, less common on conifers or rock.

**Frequency:** Common

**Reproductive Structures**: Usually no apothecia. Reproduce mainly via the dense black isidia found on the surface of the lichen.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** Several species of *Parmotrema* occur in Howard County. They often are very similar in appearance. The key below is to the known (*) and expected *Parmotrema* species in Howard County.

1a Soredia present …… 2

1b Soredia absent ……5

2a KOH+ yellow/orange …… *P. perlatum**

2b KOH+ red ……..3

3a Lower margin of lobe white ……*P. hypotropum**

3b Lower margin of lobe brown or black ……..4

4a Lobes with network of white maculae/cracks ……..…*P. reticulata*

4b Lobes without maculae ……..…*P. stuppeum**

5a Without isidia …… 6

5b With isidia …….. 7

6a Apothecial disks with large central holes …… *P. perforatum*

6b Apothecial disks not perforated …… *P. mechauxianum**

7a No cilia on isidia; maculae absent; KOH+ yellow …… *P. crinitum**

7b Cilia on isidia; maculae present; KOH+ red …… *P. ultralucens*

**References:** BSS, HH

## Southern Powdered Ruffle Lichen

*Parmotrema hypotropum*
Ascomycota
Parmeliaceae

Patapsco Valley State Park (Henryton) on branch, 1/4/11, *Richard Orr*

## Southern Powdered Ruffle Lichen

*Parmotrema hypotropum*
Ascomycota
Parmeliaceae

**ID:** Loosely attached pale greenish-gray foliose lichen. The upturned ascending lobes are 3-15 mm wide often turned back showing the underneath white zone on the lobe's lower margins. Lobe edges covered with soridia. Lobes black underneath with broad white rims. Black rhizines long and abundant at edges.

**Habitat:** Usually found on bark of deciduous tree trunks and branches.

**Frequency:** Uncommon

**Reproductive Structures**: Usually no apothecia. Reproduce mainly through soridia.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** Several species of *Parmotrema* occur in Howard County. They often are very similar in appearance. The key below is to the known (*) and expected *Parmotrema* species in Howard County.

1a Soredia present …… 2

1b Soredia absent ……5

2a KOH+ yellow/orange …… *P. perlatum**

2b KOH+ red ……..3

3a Lower margin of lobe white ……*P. hypotropum**

3b Lower margin of lobe brown or black ……..4

4a Lobes with network of white maculae/cracks ……..…*P. reticulata*

4b Lobes without maculae ……..…*P. stuppeum**

5a Without isidia …… 6

5b With isidia …….. 7

6a Apothecial disks with large central holes …… *P. perforatum*

6b Apothecial disks not perforated …… *P. mechauxianum**

7a No cilia on isidia; maculae absent; KOH+ yellow …… *P. crinitum**

7b Cilia on isidia; maculae present; KOH+ red …… *P. ultralucens*

**References:** BSS, HH

## Powdered Ruffle Lichen

*Parmotrema perlatum*
Ascomycota
Parmeliaceae

Middle Patuxent Environmental Area on rock, 3/19/11, *Richard Orr*

## Powdered Ruffle Lichen

*Parmotrema perlatum*
Ascomycota
Parmeliaceae

**ID:** Loosely attached pale or yellowish gray foliose lichen. The upturned ascending lobes are 3-15 mm wide often turned back showing the underneath brown zone on the lobe's lower margins. Lobe edges covered with soridia. Lobes black underneath with brown rims. Black rhizines abundant at edges.

**Habitat:** Usually found on bark of deciduous tree trunks and branches, more rarely rocks.

**Frequency:** Uncommon

**Reproductive Structures**: Usually no apothecia. Reproduce mainly through soridia.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** Several species of *Parmotrema* occur in Howard County. They often are very similar in appearance. The key below is to the known (*) and expected *Parmotrema* species in Howard County.

1a Soredia present …… 2

1b Soredia absent ……5

2a KOH+ yellow/orange …… *P. perlatum**

2b KOH+ red ……..3

3a Lower margin of lobe white ……*P. hypotropum**

3b Lower margin of lobe brown or black ……..4

4a Lobes with network of white maculae/cracks ……..…*P. reticulata*

4b Lobes without maculae ……..…*P. stuppeum**

5a Without isidia …… 6

5b With isidia …….. 7

6a Apothecial disks with large central holes …… *P. perforatum*

6b Apothecial disks not perforated …… *P. mechauxianum**

7a No cilia on isidia; maculae absent; KOH+ yellow …… *P. crinitum**

7b Cilia on isidia; maculae present; KOH+ red …… *P. ultralucens*

**References:** BSS, HH

## Scaly Dog Lichen

*Peltigera praetextata*
Ascomycota
Peltigeraceae

Patapsco Valley State Park (Daniels) on mossy rock, 4/6/10, *Richard Orr*

## Scaly Dog Lichen

*Peltigera praetextata*
Ascomycota
Peltigeraceae

**ID:** A light to dark brown, smooth foliose lichen with large lobes (7-20 mm). Lobe tips covered with a thin tomentum. When older, numerous tiny lobules develop along the lobe margins and in cracks in the thallus. Lower surface pale throughout with raised darker-colored veins. Rhizines present and rather long.

**Habitat:** Found in shaded to sunny areas on rock, soil or logs.

**Frequency:** Uncommon

**Reproductive Structures**: Usually no apothecia.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** The presence of lobulate cracks and a tomentose lobe margin separates this species from others in the genus.

**References:** BSS, HH

## Orange-cored Shadow Lichen

*Phaeophyscia rubropulchra*
Ascomycota
Physciaceae

**Top:** Robinson Nature Center on Sycamore bark, 9/30/11, *Richard Orr*

**Bottom:** Robinson Nature Center on hardwood bark, 9/30/11, *Richard Orr*

## Orange-cored Shadow Lichen

*Phaeophyscia rubropulchra*
Ascomycota
Physciaceae

**ID:** A foliose lichen with lobes (5-1.2 mm across) that are upturned. Upper surface of thallus highly variable in color, ranging from gray to green to brown. Lower surface of thallus black with white-tipped black rhizines. At the older sections of the thallus the medulla is a distinctive orange-red which can be obvious if the lichen has been damaged. Both apothecia and soredia common.

**Habitat:** On bark of deciduous trees usually in shaded areas. Rarely on other substrates.

**Frequency:** Common

**Reproductive Structures**: Apothecia small (< 1 mm). The soredia are mostly marginal on the lobes.

**Locations:** Range in Howard County unknown.

**Notes:** Although this lichen can be confused with *Physcia* species, the orange core (medulla) of this lichen is distinctive. Note the orange-red medulla showing on a damaged lichen in the top photograph.

**References:** BSS, HH, WJ

## Mealy Rosette Lichen

*Physcia millegrana*
Ascomycota
Physciaceae

University of Maryland Central Farm, 10/16/11, *Richard Orr*

## Mealy Rosette Lichen

*Physcia millegrana*
Ascomycota
Physciaceae

**ID:** A small-lobed, pale to gray foliose lichen spotted with white maculae and with extensive soridia. Lobes thin often rising at the edges. Lower surface white with pale-colored rhizines. Apothecia common.

**Habitat:** On bark and wood in various habitats. Rarely rock.

**Frequency:** Common

**Reproductive Structures**: Apothecia (under 1 mm) are dark brown and often pruinose.

**Locations:** Widespread in Howard County.

**Notes:** Several species of *Physcia* occur in Howard County. They often are very similar in appearance. The key below is to the known (*) and expected *Physcia* species in Howard County.

1a Abundant white maculae on thallus …… 2

1b White maculae on thallus lacking or rare …… 5

2a Apothecia rare; soralia helmet-shaped …….... *P. adscendens*

2b Apothecia abundant; no helmet-shaped soralia …….. 3

3a Always found on rock; apothecia black ……..…*P. phaea*

3b Usually on bark or wood; apothecia color variable ……..... 4

4a With marginal soredia on lobes …….. *P. millegrana**

4b Without soredia …… *P. aipolia**

5a Always on rock ……*P. subtilis**

5b Usually on bark or wood …….. 6

6a Apothecia rare; with soredia …… *P. americana**

6b Apothecia common; without soredia …….... *P. stellaris**

**References:** BSS, HH

## Star Rosette Lichen

*Physcia stellaris*
Ascomycota
Physciaceae

Chaconas property on base of tree trunk, 3/2/10, *Richard Orr*

## Star Rosette Lichen

*Physcia stellaris*
Ascomycota
Physciaceae

**ID:** A small-lobed, pale to dark gray foliose lichen. Few or no white spots (maculae) on the lobes. Apothecia common. Lobes narrow and radiating 0.2 -1 mm across that usually are separate but occasionally overlapping. Lower surface white to light brown with pale-colored rhizines.

**Habitat:** On bark in various habitats. Rarely on wood or rock.

**Frequency:** Common

**Reproductive Structures**: The 0.7-3 mm apothecia common, with dark centers – may or may not be covered with a whitish dusting.

**Locations:** Widespread in Howard County.

**Notes:** Several species of *Physcia* occur in Howard County. They often are very similar in appearance. The key below is to the known (*) and expected *Physcia* species in Howard County.

1a Abundant white maculae on thallus …….. 2

1b White maculae on thallus lacking or rare …….. 5

2a Apothecia rare; soralia helmet-shaped ……..... *P. adscendens*

2b Apothecia abundant; no helmet-shaped soralia …….. 3

3a Always found on rock; apothecia black ……..…*P. phaea*

3b Usually on bark or wood; apothecia color variable ……..... 4

4a With marginal soredia on lobes …….. *P. millegrana**

4b Without soredia …….. *P. aipolia**

5a Always on rock ……*P. subtilis**

5b Usually on bark or wood …….. 6

6a Apothecia rare; with soredia …….. *P. americana**

6b Apothecia common; without soredia …….. *P. stellaris**

**References:** BSS, HH, WJ

## Rough Speckled Shield Lichen

*Punctelia rudecta*
Ascomycota
Parmeliaceae

Rockburn Branch Park on bark, 2/6/11, *Richard Orr*

## Rough Speckled Shield Lichen

*Punctelia rudecta*
Ascomycota
Parmeliaceae

**ID:** Thallus ranges in color from bluish-gray to greenish-gray. Lower surface tan with pale rhizines. Lobes 3-8 mm wide with prominent white spots on the tips. At least the center of the lichen covered with isidia.

**Habitat:** Usually found on bark, less common on shaded rock.

**Frequency:** Common

**Reproductive Structures**: Isidia cylindrical to branched.

**Locations:** Widely distributed in Howard County.

**Notes:** Tolerant of pollution this lichen is often found in urban areas of Howard County

**References:** BSS, HH, WJ

## Bare-bottomed Sunburst Lichen

*Xanthomendoza weberi*
Ascomycota
Teloschistaceae

Howard County Fairgrounds on tree trunk, 10/9/11, *Richard Orr*

## Bare-bottomed Sunburst Lichen

*Xanthomendoza weberi*
Ascomycota
Teloschistaceae

**ID:** A foliose lichen that is orange to dark red-orange in color with small lobes 0.2 to 0.6 mm wide. The lower edges of the ascending lobe edges often covered with mealy soredia giving the small lobes a hood-like appearance.

**Habitat:** Most often found on bark less often on wood and rarely on rock.

**Frequency:** Uncommon

**Reproductive Structures**: Apothecia rare -- but pycnidia common appearing like dark-orange pimples.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** This species always has an orange tinge to it, while *Candelaria concolor* (Candleflame Lichen) is bright yellow. This species also goes by the misapplied name of *Xanthora fulva*.

**References:** BSS (as *Xanthora fulva*), HH

# FRUITICOSE LICHENS

## Dixie Reindeer Lichen

*Cladina subtenuis*
Ascomycota
Cladoniaceae

Rockburn Branch Park on sandy soil, 9/13/11, *Richard Orr*

## Dixie Reindeer Lichen

*Cladina subtenuis*
Ascomycota
Cladoniaceae

**ID:** A multi-branching, erect, yellowish-gray to gray fruticose lichen found on the ground. This lichen often forms mats of 5-10 cm or more thick. The branches are usually forked in dichotomies (rarely in threes) and the tips spread out in all directions. The crotch between the branches lacks an opening into the hollow interior of the branch (closed axils).

**Habitat:** On open ground especially sandy soil.

**Frequency:** Uncommon

**Reproductive Structures**: Podetia extremely short-lived. The small brown apothecia on the tips of the podetia are rarely seen.

**Locations:** Distribution within Howard County not known.

**Notes:** The genera *Cladina* and *Cladonia* share many characteristics. Some lichenologists place *Cladina* as a subgenus under *Cladonia*.

Additional species of Reindeer Lichen likely occur in Howard County but none with predominately dichotomous branches and closed axils.

**Key to potential and known(*) *Cladina* species in Howard County:**

| | |
|---|---|
| 1a Color gray; apices usually pointing in one direction | *C. rangiferina* |
| 1b Color pale yellowish-green | 2 |
| 2a Branching in twos; with closed axils | *C. subtenuis** |
| 2b Branching in 3s or 4s; with open axils | 3 |
| 3a Thallus forming tight rounded tuffs | *C. stellaris* |
| 3b Thallus loosely organized | *C. arbuscula* |

**References:** BSS, HH

## Stalkless Cladonia

*Cladonia apodocarpa*
Ascomycota
Cladoniaceae

Middle Patuxent Environmental Area on rock, 4/3/11, *Richard Orr*

## Stalkless Cladonia

*Cladonia apodocarpa*
Ascomycota
Cladoniaceae

**ID:** A fruticose lichen with large, strap-shaped squamules. Lobes (squamules) 10 mm long and 1-2 mm wide. Lichen a greenish-gray or bluish-gray above and white below, often uplifted showing the white underneath.

**Habitat:** On rock with a slight soil covering; also on soil in open fields usually in full sun.

**Frequency:** Uncommon

**Reproductive Structures**: Apothecia, when found, directly on squamules – no podetia present.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** Adjacent photo shows Stalkless Cladonia next to a Smokey-eyed Boulder Lichen.

**References:** BSS, HH

## Mealy Pixie-cup

*Cladonia chlorophaea* (complex)
Ascomycota
Cladoniaceae

**Top:** Triadelphia Reservoir (Pigtail) on soil, 4/12/10, *Richard Orr*

**Bottom:** Triadelphia Reservoir (Pigtail) on soil, 10/25/11, *Richard Orr*

## Mealy Pixie-cup

*Cladonia chlorophaea* (complex)
Ascomycota
Cladoniaceae

**ID:** A fruticose lichen that in the early stages has small scaly lobes (squamulose). The body of the lichen retains the scaly appearance throughout its life. The goblet-shaped cups (podetia) are pale to gray-green or in older specimens brownish. The larger cups are approximately 35 mm high. Granular soredia extend throughout top and inside of cup and at least part way down the stem of the cup.

**Habitat:** On wood, bark, moss, soil or rock.

**Frequency:** Uncommon

**Reproductive Structures**: No spores – reproduces using soredia

**Locations:** Distribution not yet determined for Howard County.

**Notes:** This is a complex of species that is easily mistaken for the true Pixie-cup Lichen (*C. pyxidae*) which has rounded areoles rather than soredia covering the cup.

**References:** BSS, WJ, HH

## Common Powderhorn

*Cladonia coniocraea*
Ascomycota
Cladoniaceae

Patuxuent River Park (Long Corner) on bark, 9/9/09, *Richard Orr*

## Common Powderhorn

*Cladonia coniocraea*
Ascomycota
Cladoniaceae

**ID:** A gray-green fruticose lichen that has rather large (up to 6 mm) scaly squamules. The body of the lichen retains the squamules. The resemblance of the 10-25 mm tapered or cylindrical podetia to a powderhorn gives it its common name. These podetia arise from the centers of the squamules. The podetia are usually covered except for the basal 1-2 mm with a fine powdery soridia.

**Habitat:** Found on various substrates including wood, soil and at the base of trees – usually in shade.

**Frequency:** Common

**Reproductive Structures**: Apothecia (brown) but are very rare – reproduces mainly using soredia

**Locations:** Widespread throughout the county.

**Notes:** This is by far our most common *Cladonia* species.

*Cladonia ochrochlora* (Smooth-footed Powderhorn) is very close to *C. coniocraea* and is present in Howard County. It has the large squamules like *C. coniocraea*. However, *C. ochrochlora* has the squamules covering the lower 1-2 mm base of the podetia (usually the lower 1/3). In *C. coniocraea* the base of the podetia lacks squamules. Also the upper two-thirds of the podetia in *C. ochrochlora* have patches of soridia and are not completely covered in soridia as in *C. coniocraea*.

*Cladonia cornuta* (Bighorn Cladonia) is browner and usually found on soil or wood in full sun. It has not yet been recorded in Howard County but is likely present. Its squamules are much smaller and less conspicuous and its podetia are generally taller (20-120 mm) than *C. coniocraea.*

**References:** BSS, WJ, HH

## British Soldiers

*Cladonia cristatella*
Ascomycota
Cladoniaceae

Patuxuent River Park (Long Corner) on wood, 9/9/09, *Richard Orr*

## British Soldiers

*Cladonia cristatella*
Ascomycota
Cladoniaceae

**ID:** A gray-green to yellow-green fruticose lichen. The body of the lichen is finely divided with abundant squamules. Podetia (non-cup-like) are less than 25 mm in height, branched and tipped with large bright red apothecia. The more shady the environment the more squamules occur and the grayer the over all color of the lichen. When in the open there are fewer to no squamules and these appear more yellowish in color.

**Habitat:** Found on a variety of substrates

**Frequency:** Uncommon but conspicuous

**Reproductive Structures**: Apothecia are bright red and conspicuous. No soredia.

**Locations:** Widespread in Howard County.

**Notes:** The bright red apothecia on top of the podetia resembles the hats of British Soldiers during colonial times. It is the only *Cladonia* species with red apothcia that completely lack soredia.

On occasion the apothecia will be colored orange or tan.

**References:** BSS, WJ, HH

## Lipstick Powderhorn

*Cladonia macilenta*
Ascomycota
Cladoniaceae

Patuxuent River State Park on wood, 3/8/11, *Richard Orr*

## Lipstick Powderhorn

*Cladonia macilenta*
Ascomycota
Cladoniaceae

**ID:** A gray-green to yellow-green fruticose lichen. The body of the lichen is finely divided with abundant squamules. Podetia (non-cup-like) are 10-25 mm in height, non-branching, covered with soredia and tipped with bright red apothecia.

**Habitat:** Found on a variety of substrates.

**Frequency:** Uncommon but conspicuous

**Reproductive Structures**: Apothecia are bright red and conspicuous.

**Locations:** Distribution within Howard County not known.

**Notes:** This species is the only lichen with red-topped podetia that are mostly not branched.

**References:** BSS, WJ, HH

## Smooth-footed Powderhorn

*Cladonia ochrochlora*
Ascomycota
Cladoniaceae

**Top:** Patapsco Valley State Park (Daniels) on wood, 3/8/11, *Richard Orr*

**Bottom:** Triadelphia Reservoir (Pigtail) on wood, 10/25/11, *Richard Orr*

## Smooth-footed Powderhorn

*Cladonia ochrochlora*
Ascomycota
Cladoniaceae

**ID:** A gray-green fruticose lichen that has rather large (up to 13 mm) squamules. The 5-40 mm tapered or cylindrical podetia are without cups or with very small cups at the top. The podetia usually with the lower 1/3 covered with squamules with patches of soridia on the upper 2/3rds.

**Habitat:** Found on rotting wood and soil.

**Frequency:** Uncommon

**Reproductive Structures**: Apithecia (brown) but are very rare – reproduces mainly using soredia

**Locations:** Distribution not yet determined for Howard County.

**Notes:** *Cladonia coniocraea* (Common Powderhorn) is very close to *C. orchrochlora*. *C. orchrochlora* has large squamules like *C. coniocraea*. However, *C. ochrochlora* has the squamules covering the lower 1-2 mm base of the podetia (usually the lower 1/3). In *C. coniocraea* the base of the podetia lacks squamules. Also the upper sections of the podetia in *C. ochrochlora* have various sized patches of soridia and are not completely covered in soridia as in *C. coniocraea*.

*Cladonia cornuta* (Bighorn Cladonia) is browner and usually found on soil or wood in full sun. Its squamules are much smaller and less conspicuous and its podetia are generally taller (20-120 mm) than either *C. coniocraea* or *C. orchrochlora*. *Cladonia cornuta* has not yet been found in Howard County.

**References:** BSS, HH

## Fence-rail Cladonia

*Cladonia parasitica*
Ascomycota
Cladoniaceae

Patapsco Valley State Park on rotting wood, 10/18/11, *Richard Orr*

## Fence-rail Cladonia

*Cladonia parasitica*
Ascomycota
Cladoniaceae

**ID:** A greenish-gray fruticose lichen with granular finely-divided squamules (2-5 mm) long. Podetia often not present. Thallus KOH + showing a deep yellow.

**Habitat:** On old wood and rotting stumps, especially conifers; rarely found on bark.

**Frequency:** Uncommon

**Reproductive Structures**: Podetia often not present. If so, then sparse on the thallus and short (3-10 mm) without cups and covered in granular areoles or with squamules. The reddish-brown apothecia are clustered on the tips of the podetia.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** This lichen forms a granular crust over old wood.

**References:** BSS, HH

## Turban Lichen

*Cladonia peziziformis*
Ascomycota
Cladoniaceae

Patapsco Valley State Park (Henryton) on wood, 3/8/11, *Richard Orr*

## Turban Lichen

*Cladonia peziziformis*
Ascomycota
Cladoniaceae

**ID:** A gray-green fruticose lichen with small (1-3 mm) squamules. The cylindrical, cupless podetia are 10-20 mm tall and 1 – 1.5 mm in diameter and capped with large (often bulging) brown apothecia.

**Habitat:** Found on rotting wood and soil.

**Frequency:** Uncommon

**Reproductive Structures**: Apothecia are abundant.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** The large “turban-like” apothecia are distinctive.

**References:** BSS, HH

## Red-fruited Pixie-cup

*Cladonia pleurota*
Ascomycota
Cladoniaceae

Triadelphia Reservoir (Pigtail) on mossy soil, 4/12/10, *Richard Orr*

## Red-fruited Pixie-cup

*Cladonia pleurota*
Ascomycota
Cladoniaceae

**ID:** A fruticose lichen that has variable-sized scaly lobes (squamulose). The body of the lichen retains the scaly appearance throughout its life. The rather broad podetia are pale yellowish-green and often with bright red apothecia on the cup's margin. The cups are 6-25 mm high.

**Habitat:** On wood, bark, soil and rock with thin covering of soil or moss.

**Frequency:** Uncommon

**Reproductive Structures**: Apothecia are bright red and located on the margin of the podetia – however the majority of successful reproduction is done through the granular soredia.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** This species resembles the more common *C. chlorophaea* but *C. pleurota* has a pale yellowish-green coloration instead of the gray-green of *C. chlorophaea* and when fertile develops red apothecia which *C. chlorophaea* never does.

**References:** BSS, WJ, HH

## Pebbled Pixie-cup

*Cladonia pyxidata*
Ascomycota
Cladoniaceae

Triadelphia Reservoir (Pigtail) on soil, 3/18/11, *Richard Orr*

## Pebbled Pixie-cup

*Cladonia pyxidata*
Ascomycota
Cladoniaceae

**ID:** A green to brown fruticose lichen that has thick, tongue-shaped squamules up to 7 mm by 4 mm. The goblet-shaped cups (podetia) are pale to gray-green or in older specimens brownish. The podetia are usually less than 40 mm high with flattened round areoles or squamules on the inside of the cups.

**Habitat:** On acidic soil, or granite.

**Frequency:** Uncommon

**Reproductive Structures**: The brown apothecia can often be found on the margins of the podetia.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** *Cladonia pyxidata* is similar to *C. chlorophaea* (complex) of species. *C. pyxidata* has heart-shaped to round areoles rather than soredia in and on the edges of the podetia that characterize the *C. chlorophaea* (complex).

**References:** BSS, WJ, HH

## Dragon Cladonia

*Cladonia squamosa*
Ascomycota
Cladoniaceae

**Top:** Patapsco Valley State Park (Daniels) on soil, 6/18/11, *Richard Orr*

**Bottom:** Rockburn Branch Park on soil, 10/11/11, *Richard Orr*

## Dragon Cladonia

*Cladonia squamosa*
Ascomycota
Cladoniaceae

**ID:** A pale grayish-green fruticose lichen that has highly variable podetia from cups to branched elongated rods. The podetia are the same color as the thallus and both are covered by finely divided non sorediate squamules that are abundant and persistent. Podetia usually 10-90 mm tall.

**Habitat:** On rotting wood, bark, soil and over rocks with thin soil.

**Frequency:** Common

**Reproductive Structures**: Although the podetia are abundant, the small brown apothecia at their tops are often overlooked.

**Locations:** Widespread in Howard County.

**Notes:** No other *Cladonia* species in our area has the overall look of the squamule-covered Dragon Cladonia.

**References:** BSS, WJ, HH

## Sinewed Ramalina

*Ramalina americana* (complex)
Ascomycota
Ramalinaceae

**Both Photos:** Manor Woods on bark of deciduous tree, 10/21/11, *Richard Orr*

## Sinewed Ramalina

*Ramalina americana* (complex)
Ascomycota
Ramalinaceae

**ID:** Thallus shrub-like with flat branches that have strong ridges and channels.

**Habitat:** On trees and shrubs usually in full sun.

**Frequency:** Uncommon

**Reproductive Structures**: Apothecia are flat to contorted and usually at or close to the branch tips; disks a dull yellow and often pruinose.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** This species is a complex of at least two species which cannot be told apart except through DNA analysis. The ridges and channels on the branches of this lichen separate it from *Ramalina complanata* (Bumpy Ramalina) which is also found in Howard County.

**References:** BSS, HH

## Bumpy Ramalina

*Ramalina complanata*
Ascomycota
Ramalinaceae

Manor Woods on bark of deciduous tree, 10/21/11, *Richard Orr*

## Bumpy Ramalina

*Ramalina complanata*
Ascomycota
Ramalinaceae

**ID:** Thallus shrub-like with flat branches (lobes) that are covered with whitish warts. Pseudocyphellae common at the summits of the warts. Apothecia common.

**Habitat:** On deciduous trees and shrubs usually in full sun.

**Frequency:** Uncommon

**Reproductive Structures**: The yellowish or pinkish-orange apothecia can be either at the lobe tips or on the lobe surface. The apothecia can be large up to 4 mm across.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** The presence of warts on the branches separates this from *Ramalina americana* (Sinewed Ramalina) which is also found in Howard County.

**References:** BSS, HH

## Warty Beard Lichen

*Usnea ceratina*
Ascomycota
Parmeliaceae

Schooly Mill Park on bark of deciduous tree, 3/29/11, *Richard Orr*

## Warty Beard Lichen

*Usnea ceratina*
Ascomycota
Parmeliaceae

**ID:** Yellowish-green, 3-70 cm long fruticose lichen that is shrubby to pendent. Wart-like tubercles cover the main branches. The tops of the older tubercles become white. Core is usually pink.

**Habitat:** On conifers and deciduous trees and shrubs in humid open forests, rarely rocks.

**Frequency:** Uncommon

**Reproductive Structures**: Apothecia rare.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** As with all *Usnea* species this species has a central core (axis) that can be seen if the branches are gently pulled apart. The Warty Beard Lichen is one of the easiest of the Usnea to identify due to its white-topped tubercles and pink core and medulla.

**References:** BSS, HH

## Brushy Beard Lichen

*Usnea strigosa*
Ascomycota
Parmeliaceae

**Top:** Chaconas property on bark of deciduous tree, 4/2/10, *Richard Orr*

**Bottom:** Manor Woods on bark of deciduous tree, 10/21/11, *Richard Orr*

## Brushy Beard Lichen

*Usnea strigosa*
Ascomycota
Parmeliaceae

**ID:** Yellowish-green or gray-green, 3-8 cm long fruticose lichen that is pendent or nearly so. It is a very brushy looking lichen with numerous fibrils (up to 1 cm) coming off the main branches at right angles. Large apothecia (5-10 mm) in diameter are formed at the apices of the branches. The color of the central core of *Usnea strigosa* is reddish or nonpigmented.

**Habitat:** On bark of deciduous trees and shrubs often found in the open.

**Frequency:** Uncommon

**Reproductive Structures**: Apothecia abundant with long fibrils on the margins.

**Locations:** Distribution not yet determined for Howard County.

**Notes:** As with all *Usnea* species this species has a central core (axis) that can be seen if the branches are gently pulled apart.

**References:** BSS, HH

# Glossary

**Apotheci(um)(a)** – sexual reproductive structure. Usually disk-shaped structure lined with a spore-producing surface.

**Areole** – small irregular angular patch of the thallus.

**Asc(us)(i)** – sac-like structures in which the spores are formed.

**Cilia** – hair-like appendages usually found on the thallus of many lichens.

**Cortex** – outer covering of many lichens; usually smooth and glossy.

**Crustose** – lichen type that is in contact with the substrate at all points and cannot be removed intact from its substrate without removing a portion of the substrate.

**Foliose** – lichen type that is leafy and usually somewhat flat; lower and upper surface easy to tell apart.

**Fruticose** – lichen type that is stalked, pendent or shrubby; normally with no distinguishable upper or lower surface.

**Lirellae** – linear apothecia characteristic of several genera including *Graphis.*

**Lobe** – elongated to rounded extension at the edge of the thallus.

**Lobul(e)(es)(ate)** – small scale-like lobe.

**Isidia** – asexual reproductive structures that are covered by a cortex; tiny and finger-like to globular.

**KOH (K)** – potassium hydroxide

**Lobe** – rounded or somewhat elongated division or projection of a thallus margin.

**Maculae** – round or reticulated areas caused by gaps in the photobiont layer under the cortex of the lichen.

**Medulla** – interior layer of most lichens.

**Peritheci(a)(um)** – like apothecia but with a slightly different development; usually dark and pear-shaped with tiny hole at the top.

**Photobiont** – photosynthetic component of lichens, either green algae or cyanobacteria (blue-green algae).

**Podet(ium)(ia)** – stalk formed by the lower tissue of some lichens such as *Cladonia*.

**Pseudocyphell(a)(ae)** – tiny white pore in the upper cortex; appear as white-dots on the top of the thallus and allow for the exchange of gasses in the lichen.

**Rhizine(s)** – root-like structures usually on the lower surface.

**Squamul(e)(s)(ose)** – small flakes of lichen, often round, ear-like, or lobes.

**Soral(ium)(ia)** -- area of the thallus that has soredia.

**Sored(ium)(ia)** – asexual reproductive structures that are powdery to granular and not covered with a cortex.

**Thallus** – body of a lichen.

**Toment(um)(ose)** – covered by fine hair often cotton-like.

# References


| Abbreviation | Reference |
|---|---|
| BSS: | Brodo, I.M, S.D. Sharnoff and S. Sharnoff. 2001. *Lichens of North America*. Yale University. Currently the best lichen guide for covering all of North America. |
| HH: | Hinds, J.W. and P.L. Hinds. 2007. *Macrolichens of New England*. The New York Botanical Garden Press. Excellent coverage of the non-crustose lichens. Covers 95% of the Maryland non-crustose lichens including all of the common species. |
| WJ: | Walewski, J. 2007. *Lichens of the North Woods*. North Woods Naturalist Series. Great little guide to the lichens. Unfortunately, of limited use for Maryland. |

# Index by Scientific Names

# Index by English Names