

Assateague Island National Seashore

Lichen Survey 2000

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ABSTRACT:

Field work was conducted over one day in October 2000 at the barrier island section of Assateague Island National Seashore, Maryland in order to conduct a floristic survey of the island's lichen flora. A total of twenty-seven species were collected, consisting of a total of six liverwort species and twenty-one moss species with no hornwort species being represented.

INTRODUCTION:

Assateague Island, a barrier island, extends for 58 kilometers from Ocean City Inlet in Maryland, south to Chincoteague Inlet, Virginia. Most of the northern (Maryland) end of the island is managed by the National Park Service as a part of Assateague Island National Seashore, with Maryland Department of Natural Resources managing parts of the island in Maryland as Assateague State Park. The southern (Virginia) end is managed by the U.S. Fish and Wildlife Service as Chincoteague National Wildlife Refuge.

Though vascular plant flora of the National Seashore has been relatively well known and documented by several studies (Higgins et al., 1971) (Hill, 1986), Lea et al. (2000), there has been virtually no floristic investigation into terrestrial non-vascular flora, prior to 2000. King (2001) documented the division Bryophyta on the island. Simultaneously, this survey was conducted in order to begin developing floristic information on the lichens. Bryophytes can be found in a variety of habitats varying from tree bark to semi-aquatic environments such as freshwater ponds. Their distribution is more limited by abiotic factors such as wind desiccation and the presence of saline. The more physical limiting abiotic factors a habitat contains, the poorer the bryophytic diversity in that community will be. Barrier islands are often very poor in bryophytic diversity because of the relative number of harsh environmental factors that are a natural part of a barrier island ecosystem.

Because of the relatively small stature of the plants, bryophyte taxonomy is difficult and not widely understood. Thus, bryophytes are often overlooked or ignored during community plant inventories. This study represents the first systematic effort to collect bryophyte floristic information from Assateague Island National Seashore (Maryland portion of Assateague Island).

METHODS:

Field collections were conducted from July 2000 to December 2000 on Assateague Island National Seashore. Identifications were based primarily on *Mosses of Eastern North America Vols. I & II* (Crum and Anderson 1981) for the mosses and *The Hepaticae and Anthocerotae of North America Vols. I-V* (Schuster 1969-1991) for the liverworts. Common names for the bryophytes that are used in this report were obtained from an upcoming publication by Studlar (draft) and Studlar et al. (draft). Other resources utilized during the course of this study include Ammons (1940), Thomas (1974), Conard and Redfearn (1979), Redfearn (1983), Hicks (1992), Redfearn and Allen (1999), and Hill (2000). All vegetation community classifications were based on a classification developed for Assateague Island National Seashore (Nature Conservancy 1995). A voucher specimen of each species was collected

and preserved in the Assateague National Seashore herbarium (Appendix 2). A complete duplicate collection, with identical collector numbers, was sent to the Claude E. Phillips Herbarium at Delaware State University (DOV) in Dover, Delaware. A partial duplicate collection, part with identical collector numbers and part with new collector numbers, was sent to the Duke University Herbarium (DUKE) in Durham, North Carolina. The partial duplicate set was lacking only four of the species included in the other two sets: *Bryum caespitium*, *Leptobryum pyriforme*, *Sphagnum recurvum*, and *Weissia controversa*. Herbarium abbreviations follow Holmgren et al. (1990).

RESULTS:

A complete listing of species is presented below.

DISCUSSION AND CONCLUSIONS:

Assateague Island, like most barrier islands, is relatively poor in its bryophyte species diversity when compared to that of the mainland. Many factors may contribute to this lack of diversity. Relative paucity of habitats, salt intolerance in most bryophyte species, and wind desiccation are three of the most important factors in limiting the number of species that can survive in such harsh environmental conditions. Barrier islands present a limited number of suitable habitats in which bryophytes can grow and are further limited by the number of suitable substrates within these habitats. Saline environments, which abound on a barrier island, are unsuitable to bryophyte establishment and growth. Bryophytes on Assateague also appear to be severely limited by wind desiccation. In only one location were bryophytes observed growing above the tree bases, indicating that desiccation by wind might be playing an important role in local establishment. Personal communication with several other bryologists confirmed this observation as occurring on other barrier islands as well (Susan Studlar personal communication, Paul Redfearn, Jr. personal communication). Bryophytes on Assateague are much more likely to be found on the tree bases of hardwood species, such as *Acer rubrum* than on coniferous species, such as *Pinus taeda*, the most common tree species on the island. This distribution pattern could be related to several factors, such as varying stem flow between hardwoods and conifers and substrate chemical composition (e.g. pine bark could be a more acidic substrate than maple bark). None of the bryophyte taxa found on Assateague during the course of this study should be considered rare. Most of the species that were encountered are either common throughout a wide range or are commonly found on the coastal plain. Because of the limited occurrence of some of the species, however, it is possible that additional taxa may be found with a more intensive survey.

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information on field observations and assistance in identification.

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Kingdom: **Fungi**
Division: **Ascomycotina**
Order: **Lecanorales**
Suborder: **Cladoniineae**
Family: **Micareaceae**
Family: **Cladoniaceae**
Genus: **Cladonia**

Kingdom: **Fungi**
Division: **Ascomycotina**
Order: **Lecanorales**
Suborder: **Lecanorineae**
Suborder: **Lecanoraceae**
Family: **Candelariaceae**
Genus: **Candelaria**

Kingdom: **Fungi**
Division: **Ascomycotina**
Order: **Lecanorales**
Suborder: **Lecanorineae**
Suborder: **Lecanoraceae**
Family: **Parmeliaceae**
Genus: **Usnea**

Kingdom: **Fungi**
Division: **Ascomycotina**
Order: **Lecanorales**
Suborder: **Acarosporineae**
Family: **Hymeneliaceae**
Genus: **Aspicilia**

Kingdom: **Fungi**
Division: **Ascomycotina**
Order: **Lecanorales**
Suborder: **Lecanorineae**
Suborder: **Lecanoraceae**
Family: **Parmeliaceae**
Genus: **Parmelia**

Kingdom: **Fungi**
Division: **Ascomycotina**

Order: **Lecanorales**
Suborder: **Lecanorineae**
Suborder: **Physciaceae**
Family: **Physciaceae**
Subfamily: **Rinodina**
Genus: **Heterodermia**

Kingdom: **Fungi**
Division: **Ascomycotina**
Order: **Lecanorales**
Suborder: **Lecanorineae**
Suborder: **Physciaceae**
Family: **Physciaceae**
Subfamily: **Buellia**
Genus: **Amandinea**

Kingdom: **Fungi**
Division: **Ascomycotina**
Order: **Lecanorales**
Suborder: **Lecanorineae**
Suborder: **Physciaceae**
Family: **Physciaceae**
Subfamily: **Buellia**
Genus: **Buellia**

Kingdom: **Fungi**
Division: **Ascomycotina**
Order: **Lecanorales**
Suborder: **Lecanorineae**
Suborder: **Lecanoraceae**
Family: **Lecanoraceae**
Genus: **Lecanora**

Kingdom: **Fungi**
Division: **Ascomycotina**
Order: **Lecanorales**
Suborder: **Pertusariineae**
Family: **Pertusariaceae**
Genus: **Pertusaria**

Kingdom: **Fungi**
Division: **Ascomycotina**
Order: **Lecanorales**
Suborder: **Lecanorineae**

Suborder: **Lecanoraceae**
Family: **Lecanoraceae**
Genus: **Pyrrhospora**

Kingdom: **Fungi**
Division: **Ascomycotina**
Order: **Lecanorales**
Suborder: **Lecanorineae**
Suborder: **Physciaceae**
Family: **Physciaceae**
Subfamily: **Rinodina**
Genus: **Physcia**

Kingdom: **Fungi**
Division: **Ascomycotina**
Order: **Lecanorales**
Genus: **Lepraria**

Kingdom: **Fungi**
Division: **Ascomycotina**
Order: **Lecanorales**
Suborder: **Acarosporineae**
Family: **Acarosporaceae**
Genus: **Polysporina**

Kingdom: **Fungi**
Division: **Ascomycotina**
Order: **Lecanorales**
Suborder: **Lecanorineae**
Suborder: **Lecanoraceae**
Family: **Ramalinaceae**
Genus: **Ramalina**

Kingdom: **Fungi**
Division: **Ascomycotina**
Order: **Lecanorales**
Suborder: **Teloschistineae**
Family: **Teloschistaceae**
Genus: **Caloplaca**

Genus: **Parmotrema**

Genus: **Rimelia**

Genus: **Arthonia**

Genus: **Graphina**

Genus: **Punctelia**

Genus: **Graphis**

Genus: **Phaeographis**

Genus: **Placynthiella**

Genus: **Canoparmelia**

Genus: **Flavoparmelia**

Genus: **Sphinctrina**

Genus: **Cladina**

Genus: **Trypethelium**

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APPENDIX 1

SUMMARY TABLES OF FINDINGS

Table 1. Occurrence of number of moss genera and species by family

Family	Number of Genera	Number of Species
Aulacomniaceae	1	1
Brachytheciaceae	1	1
Bryaceae	3	5
Dicranaceae	1	3
Ditrichaceae	1	1
Entodontaceae	1	1
Hypnaceae	1	1
Leucobryaceae	1	2
Plagiotheciaceae	1	1
Polytrichaceae	1	1
Pottiaceae	1	1
Sphagnaceae	1	3

Table 2. Occurrence of number of liverwort genera and species by family

Family	Number of Genera	Number of Species
Adelanthaceae	1	1
Cephaloziaceae	1	1
Jubulaceae	1	1
Lepidoziaceae	1	1
Lophocoleaceae	1	1
Pallaviciniaceae	1	1

APPENDIX 2

APPENDIX 3
Lichen Collection Information

Collection Number	Species	Location	Habitat
Crichton 531	<u>Candelaria concolor</u> (Dicks.) Stein.	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black cherry (<i>Prunus serotina</i>).
Crichton 532	<u>Flavoparmelia caperata</u> (L.) Hale	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black cherry (<i>Prunus serotina</i>).
Crichton 533	<u>Heterodermia granulifera</u> (Ach.) W. Culb.	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black cherry (<i>Prunus serotina</i>).
Crichton 534	<u>Parmotrema crinitum</u> (Ach.) Choisy	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black cherry (<i>Prunus serotina</i>).
Crichton 535	<u>Parmotrema hypoleucinum</u> (B. Stein.) Hale	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black cherry (<i>Prunus serotina</i>).
Crichton 536	<u>Parmotrema hypotropum</u> (Nyl.) Hale	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black cherry (<i>Prunus serotina</i>).
Crichton 537	<u>Parmotrema perforatum</u> (Jacq.) Mass.	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black cherry (<i>Prunus serotina</i>).
Crichton 538	<u>Punctelia rudecta</u> (Ach.) Krog	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On willow oak (<i>Quercus phellos</i>) and black cherry (<i>Prunus serotina</i>).
Crichton 539	<u>Rimelia reticulata</u> (Taylor) Hale & Fletcher	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black cherry (<i>Prunus serotina</i>).
Crichton 540	<u>Rimelia subisidiosa</u> (Mull. Arg.) Hale & Fletcher	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black cherry (<i>Prunus serotina</i>).
Crichton 541	<u>Usnea strigosa</u> (Ach.) Eaton	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black cherry (<i>Prunus serotina</i>).

Crichton 542	<u>Amandinea punctata</u> (Hoffm.) Coppins & Schneid.	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On loblolly pine (<i>Pinus taeda</i>) and groundsel bush (<i>Baccharis halimifolia</i>).
Crichton 543	<u>Aspicilia</u> sp.	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black cherry (<i>Prunus serotina</i>).
Crichton 544	<u>Buellia stillingiana</u> J. Steiner	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black oak (<i>Quercus velutina</i>).
Crichton 545	<u>Graphis</u> sp.	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black cherry (<i>Prunus serotina</i>).
Crichton 546	<u>Lecanora caesiorabella</u> Ach. ssp. <u>caesiorabella</u>	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black cherry (<i>Prunus serotina</i>) and black oak (<i>Quercus velutina</i>).
Crichton 547	<u>Lecanora hybocarpa</u> (Tuck.) Brodo	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black oak (<i>Quercus velutina</i>) and willow oak (<i>Quercus phellos</i>).
Crichton 548	<u>Lecanora strobolina</u> (Sprengel) Kieffer	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black oak (<i>Quercus velutina</i>), loblolly pine (<i>Pinus taeda</i>), willow oak (<i>Quercus phellos</i>), black cherry (<i>Prunus serotina</i>), and groundsel bush (<i>Baccharis halimifolia</i>).
Crichton 549	<u>Pertusaria</u> sp.	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On willow oak (<i>Quercus phellos</i>).
Crichton 550	<u>Pertusaria</u> sp.	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On groundsel bush (<i>Baccharis halimifolia</i>).
Crichton 551	<u>Phaeographis sericea</u> (Eschw.) Mull. Arg.	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On groundsel bush (<i>Baccharis halimifolia</i>).
Crichton 552	<u>Placynthiella uliginosa</u> (Schrader) Coppins & P. James	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On sand.
Crichton 553	<u>Pyrrhospora varians</u> (Ach.) R. C. Harris	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black cherry (<i>Prunus serotina</i>).

Crichton 554	<u>Sphinctrina anglica</u> Nyl.	Along west side of Bayberry Drive, 1.3 miles south of the Verrazano Bridge.	On black cherry (<i>Prunus serotina</i>).
Crichton 555	<u>Canoparmelia caroliniana</u> (Nyl.) Elix and Hale	West of Bayberry Drive along Life of the Forest Trail, 1.7 miles south of the Verrazano Bridge.	On red maple (<i>Acer rubrum</i>) and loblolly pine (<i>Pinus taeda</i>).
Crichton 556	<u>Flavoparmelia caperata</u> (L.) Hale	West of Bayberry Drive along Life of the Forest Trail, 1.7 miles south of the Verrazano Bridge.	On loblolly pine (<i>Pinus taeda</i>).
Crichton 557	<u>Parmotrema hypotropum</u> (Nyl.) Hale	West of Bayberry Drive along Life of the Forest Trail, 1.7 miles south of the Verrazano Bridge.	On loblolly pine (<i>Pinus taeda</i>).
Crichton 558	<u>Physcia millegrana</u> Degel.	West of Bayberry Drive along Life of the Forest Trail, 1.7 miles south of the Verrazano Bridge.	On loblolly pine (<i>Pinus taeda</i>).
Crichton 559	<u>Cladonia</u> sp.	West of Bayberry Drive along Life of the Forest Trail, 1.7 miles south of the Verrazano Bridge.	On loblolly pine bark (<i>Pinus taeda</i>).
Crichton 560	<u>Amandinea punctata</u> (Hoffm.) Coppins and Scheid.	West of Bayberry Drive along Life of the Forest Trail, 1.7 miles south of the Verrazano Bridge.	On loblolly pine (<i>Pinus taeda</i>) and groundsel bush (<i>Baccharis halimifolia</i>).
Crichton 561	<u>Graphis</u> sp.	West of Bayberry Drive along Life of the Forest Trail, 1.7 miles south of the Verrazano Bridge.	On red maple (<i>Acer rubrum</i>).
Crichton 562	<u>Graphis</u> sp.	West of Bayberry Drive along Life of the Forest Trail, 1.7 miles south of the Verrazano Bridge.	On red maple (<i>Acer rubrum</i>).
Crichton 563	<u>Lecanora hybocarpa</u> (Tuck.) Brodo	West of Bayberry Drive along Life of the Forest Trail, 1.7 miles south of the Verrazano Bridge.	On red maple (<i>Acer rubrum</i>).

Crichton 564	<u>Lecanora strobilina</u> (Sprengel) Kieffer	West of Bayberry Drive along Life of the Forest Trail, 1.7 miles south of the Verrazano Bridge.	On loblolly pine (<i>Pinus taeda</i>) and loblolly pine cone bracts.
Crichton 565	<u>Phaeographis sericea</u> (Eschw.) Mull. Arg.	West of Bayberry Drive along Life of the Forest Trail, 1.7 miles south of the Verrazano Bridge.	On loblolly pine (<i>Pinus taeda</i>) and loblolly pine cone bracts.
Crichton 566	<u>Parmotrema rampoddense</u> (Nyl.) Hale	At end of Bayberry Drive along Life of the Dunes Trail, 2 miles south of the Verrazano Bridge.	On black cherry (<i>Prunus serotina</i>).
Crichton 567	<u>Parmotrema hypotropum</u> (Nyl.) Hale	At end of Bayberry Drive along Life of the Dunes Trail, 2 miles south of the Verrazano Bridge.	On loblolly pine (<i>Pinus taeda</i>).
Crichton 568	<u>Physcia millegrana</u> Degel.	At end of Bayberry Drive along Life of the Dunes Trail, 2 miles south of the Verrazano Bridge.	On black cherry (<i>Prunus serotina</i>).
Crichton 569	<u>Arthonia</u> sp.	At end of Bayberry Drive along Life of the Dunes Trail, 2 miles south of the Verrazano Bridge.	On fallen black cherry (<i>Prunus serotina</i>) branch.
Crichton 570	<u>Buellia polyspora</u> (Willey) Vainio	At end of Bayberry Drive along Life of the Dunes Trail, 2 miles south of the Verrazano Bridge.	On weathered fence post.
Crichton 571	<u>Graphina</u> sp.	At end of Bayberry Drive along Life of the Dunes Trail, 2 miles south of the Verrazano Bridge.	On weathered fence post.
Crichton 572	<u>Lecanora caesiorubella</u> (Ach.) ssp. <u>caesiorubella</u>	At end of Bayberry Drive along Life of the Dunes Trail, 2 miles south of the Verrazano Bridge.	On dead black cherry (<i>Prunus serotina</i>) branch.
Crichton 573	<u>Lecanora strobilina</u> (Sprengel) Kieffer	At end of Bayberry Drive along Life of the Dunes Trail, 2 miles south of the Verrazano Bridge.	On eastern red cedar (<i>Juniperus virginiana</i>) and weathered fence post.

Crichton 574	<u>Pertusaria valliculata</u> Dibben	At end of Bayberry Drive along Life of the Dunes Trail, 2 miles south of the Verrazano Bridge.	On eastern red cedar (<i>Juniperus virginiana</i>).
Crichton 575	<u>Placynthiella uliginosa</u> (Schrader) Coppins and P. James	At end of Bayberry Drive along Life of the Dunes Trail, 2 miles south of the Verrazano Bridge.	On sand.
Crichton 576	<u>Pyrrhospora varians</u> (Ach.) R.C. Harris	At end of Bayberry Drive along Life of the Dunes Trail, 2 miles south of the Verrazano Bridge.	On weathered fence post.
Crichton 577	<u>Trypethelium virens</u> Tack. Ex Michener	At end of Bayberry Drive along Life of the Dunes Trail, 2 miles south of the Verrazano Bridge.	On dead black cherry (<i>Prunus serotina</i>) branch.
Crichton 578	<u>Canoparmelia caroliniana</u> (Nyl.) Elix and Hale	At Pine Tree Campground Area, 3.75 miles south of the Verrazano Bridge.	On loblolly pine (<i>Pinus taeda</i>).
Crichton 579	<u>Cladina rangiferina</u> (L.) Harm.	At Pine Tree Campground Area, 3.75 miles south of the Verrazano Bridge.	On ground under loblolly pine (<i>Pinus taeda</i>).
Crichton 580	<u>Cladonia cristatella</u> Tuck.	At Pine Tree Campground Area, 3.75 miles south of the Verrazano Bridge.	On fallen dead branch.
Crichton 581	<u>Cladonia macilenta</u> var. <u>bacillaris</u> (Genth) Schaerer	At Pine Tree Campground Area, 3.75 miles south of the Verrazano Bridge.	On old loblolly pine (<i>Pinus taeda</i>) wood.
Crichton 582	<u>Cladonia parasitica</u> (Hoffm.) Hoffm.	At Pine Tree Campground Area, 3.75 miles south of the Verrazano Bridge.	On loblolly pine (<i>Pinus taeda</i>).
Crichton 583	<u>Cladonia rappii</u> Evans	At Pine Tree Campground Area, 3.75 miles south of the Verrazano Bridge.	On ground among moss.
Crichton 584	<u>Lepraria lobificans</u> Nyl.	At Pine Tree Campground Area, 3.75 miles south of the Verrazano Bridge.	On loblolly pine (<i>Pinus taeda</i>).
Crichton 585	<u>Phaeographis sericea</u> (Eschw.) Mull. Arg.	At Pine Tree Campground Area, 3.75 miles south of the Verrazano Bridge.	On loblolly pine (<i>Pinus taeda</i>).
Crichton 586	<u>Canoparmelia caroliniana</u> (Nyl.) Elix and Hale	At Jackson's Lodge, Green Run Area, 4 miles north of the Md-Va state line.	On dead, standing loblolly pine (<i>Pinus taeda</i>).

Crichton 587	<u>Parmotrema hypotropum</u> (Nyl.) Hale	At Jackson's Lodge, Green Run Area, 4 miles north of the Md-Va state line.	On old bark.
Crichton 588	<u>Parmotrema perforatum</u> (Jacq.) Mass.	At Jackson's Lodge, Green Run Area, 4 miles north of the Md-Va state line.	On dead, standing loblolly pine (<i>Pinus taeda</i>).
Crichton 589	<u>Punctelia rudecta</u> (Ach.) Krog	At Jackson's Lodge, Green Run Area, 4 miles north of the Md-Va state line.	On dead, standing loblolly pine (<i>Pinus taeda</i>) and hardwood bark.
Crichton 590	<u>Cladonia cristatella</u> Tuck.	At Jackson's Lodge, Green Run Area, 4 miles north of the Md-Va state line.	On roof shingle of Jackson's Lodge.
Crichton 591	<u>Cladonia</u> sp.	At Jackson's Lodge, Green Run Area, 4 miles north of the Md-Va state line.	On rotting wood.
Crichton 592	<u>Cladonia macilenta</u> var. <u>bacillaris</u> (Genth) Shaerer	At Jackson's Lodge, Green Run Area, 4 miles north of the Md-Va state line.	On roof shingle of Jackson's Lodge.
Crichton 593	<u>Cladonia parasitica</u> (Hoffm.) Hoffm.	At Jackson's Lodge, Green Run Area, 4 miles north of the Md-Va state line.	On rotting wood.
Crichton 594	<u>Cladonia squamosa</u> (Scop.) Hoffm.	At Jackson's Lodge, Green Run Area, 4 miles north of the Md-Va state line.	On roof shingle of Jackson's Lodge.
Crichton 595	<u>Usnea strigosa</u> (Ach.) Eaton	At Jackson's Lodge, Green Run Area, 4 miles north of the Md-Va state line.	On dead, standing loblolly pine (<i>Pinus taeda</i>).
Crichton 596	<u>Amandinea punctata</u> (Hoffm.) Hoffm.	At Jackson's Lodge, Green Run Area, 4 miles north of the Md-Va state line.	On loblolly pine (<i>Pinus taeda</i>).
Crichton 597	<u>Buellia polyspora</u> (Willey) Vainio	At Jackson's Lodge, Green Run Area, 4 miles north of the Md-Va state line.	On dead, standing loblolly pine (<i>Pinus taeda</i>).
Crichton 598	<u>Lecanora strobilina</u> (Sprengel) Kieffer	At Jackson's Lodge, Green Run Area, 4 miles north of the Md-Va state line.	On dead, standing loblolly pine (<i>Pinus taeda</i>).
Crichton 599	<u>Lepraria</u> sp.	At Jackson's Lodge, Green Run Area, 4 miles north of the Md-Va state line.	On loblolly pine (<i>Pinus taeda</i>).
Crichton 600	<u>Placynthiella uliginosa</u> (Schrader) Coppins and P. James	At Jackson's Lodge, Green Run Area, 4 miles north of the Md-Va state line.	On roof shingle of Jackson's Lodge.
Crichton 601	<u>Polysporina simplex</u> (Davies) Vezda	At Jackson's Lodge, Green Run Area, 4 miles north of the Md-Va state line.	On dead, standing pine (<i>Pinus taeda</i>).

Crichton 602	<u>Punctelia rudecta</u> (Ach.) Krog	Green Run cemetery, Green Run Area, 4 miles north of the Md-Va state line.	On fence rail at Green Run cemetery.
Crichton 603	<u>Rimelia reticulata</u> (Taylor) Hale and Fletcher	Green Run cemetery, Green Run Area, 4 miles north of the Md-Va state line.	On loblolly pine (<i>Pinus taeda</i>) at Green Run cemetery.
Crichton 604	<u>Cladonia</u> sp.	Green Run cemetery, Green Run Area, 4 miles north of the Md-Va state line.	On fence rail at Green Run cemetery.
Crichton 605	<u>Cladonia floerkeana</u> (Fr.) Somm.	Green Run cemetery, Green Run Area, 4 miles north of the Md-Va state line.	On fence rail at Green Run cemetery.
Crichton 606	<u>Cladonia santensis</u> Tuck.	Green Run cemetery, Green Run Area, 4 miles north of the Md-Va state line.	On fence rail at Green Run cemetery.
Crichton 607	<u>Lecanora caesiorubella</u> Ach. var. <u>caesiorubella</u>	Green Run cemetery, Green Run Area, 4 miles north of the Md-Va state line.	On fence rail at Green Run cemetery.
Crichton 608	<u>Flavoparmelia caperata</u> (L.) Hale	Near Candleberry House in housing area near National Park's Visitor's Center.	On loblolly pine (<i>Pinus taeda</i>) and black locust (<i>Robinia pseudoacacia</i>).
Crichton 609	<u>Parmotrema hypotropum</u> (Nyl.) Hale	Near Candleberry House in housing area near National Park's Visitor's Center.	On loblolly pine (<i>Pinus taeda</i>) and black locust (<i>Robinia pseudoacacia</i>).
Crichton 610	<u>Parmotrema perforatum</u> (Jacq.) Mass.	Near Candleberry House in housing area near National Park's Visitor's Center.	On loblolly pine (<i>Pinus taeda</i>) and black locust (<i>Robinia pseudoacacia</i>).
Crichton 611	<u>Physcia millegrana</u> Degel.	Near Candleberry House in housing area near National Park's Visitor's Center.	On loblolly pine (<i>Pinus taeda</i>) and black locust (<i>Robinia pseudoacacia</i>).
Crichton 612	<u>Punctelia rudecta</u> (Ach.) Krog	Near Candleberry House in housing area near National Park's Visitor's Center.	On loblolly pine (<i>Pinus taeda</i>) and black locust (<i>Robinia pseudoacacia</i>).
Crichton 613	<u>Rimelia reticulata</u> (Taylor) Hale and Fletcher	Near Candleberry House in housing area near National Park's Visitor's Center.	On loblolly pine (<i>Pinus taeda</i>) and black locust (<i>Robinia pseudoacacia</i>).

Crichton 614	<u>Ramalina americana</u> Hale	Near Candleberry House in housing area near National Park's Visitor's Center.	On loblolly pine (<i>Pinus taeda</i>) and black locust (<i>Robinia pseudoacacia</i>).
Crichton 615	<u>Usnea strigosa</u> (Ach.) Eaton	Near Candleberry House in housing area near National Park's Visitor's Center.	On loblolly pine (<i>Pinus taeda</i>) and black locust (<i>Robinia pseudoacacia</i>).
Crichton 616	<u>Lecanora caesiorubella</u> Ach. var. caesiorubella	Near Candleberry House in housing area near National Park's Visitor's Center.	On loblolly pine (<i>Pinus taeda</i>) and black locust (<i>Robinia pseudoacacia</i>).
Crichton 617	<u>Lecanora hybocarpa</u> (Tuck.) Brodo	Near Candleberry House in housing area near National Park's Visitor's Center.	On loblolly pine (<i>Pinus taeda</i>) and black locust (<i>Robinia pseudoacacia</i>).
Crichton 618	<u>Lecanora strobilina</u> (Sprengel) Kieffer	Near Candleberry House in housing area near National Park's Visitor's Center.	On loblolly pine (<i>Pinus taeda</i>) and black locust (<i>Robinia pseudoacacia</i>).
Crichton 619	<u>Pyrrhospora varians</u> (Ach.) R.C. Harris	Near Candleberry House in housing area near National Park's Visitor's Center.	On loblolly pine (<i>Pinus taeda</i>) and black locust (<i>Robinia pseudoacacia</i>).
Crichton 620	<u>Caloplaca</u> sp.	Near Candleberry House in housing area near National Park's Visitor's Center.	On cement.
Crichton 621	<u>Lecanora dispersa</u> (Pers.) Sommerf.	Near Candleberry House in housing area near National Park's Visitor's Center.	On cement.