

Rare Flora and Natural Communities
of Plummers Island,
Montgomery County, Maryland



July 2020

Introduction

Plummers Island - an ancient “knickpoint” or rocky falls in the Potomac River Gorge east of Great Falls - is a forested, 12-acre island about nine miles upriver from Washington, D.C. in Montgomery County, Maryland. It holds the distinction of being “the most thoroughly studied island in North America.” Plummers Island has been the home of the Washington Biologists’ Field Club (WBFC) since 1901, shortly after botanist Charles Louis Pollard formed the club and began the search for a field station near Washington, D.C.

In 1959, the club gave the island to the United States (U.S. National Park Service) and has since continued a program of scientific research. For further information on WBFC’s research activities and scientific publications, see <https://WBFC.science>.

A total of 4 globally rare natural communities, two of which are state rare; 21 state-rare extant flora, including one globally rare extant species; and 36 state-rare historic flora, including 4 globally rare historic taxa are known from the island.

Rare Flora and Natural Communities

Rare Natural Communities (in order of lowest to highest in elevation)

Piedmont / Central Appalachian Sand Bar / River Shore (Low Herbs Type): *Eragrostis hypnoides* - *Lindernia dubia* - *Ludwigia palustris* - *Cyperus squarrosus* Herbaceous Vegetation (USNVC: C EGL006483). Non-tidal mudflats. Global/State Ranks: G3/SNR

Potomac Gorge Riverside Outcrop Barren (Potomac Gorge Type): (*Hypericum prolificum*, *Eubotrys racemosa*) / *Schizachyrium scoparium* - *Solidago racemosa* - *Ionactis linariifolia* Herbaceous Vegetation (USNVC: C EGL006491). Global/State Ranks: G2/S1.

Mid-Atlantic High Terrace Hardwood Floodplain Forest: *Acer saccharum* - *Fraxinus americana* / *Carpinus caroliniana* / *Podophyllum peltatum* Forest (USNVC: C EGL006459). Global/State Ranks: G3/SNR.

Potomac River Bedrock Terrace Hardpan Forest: *Carya glabra* - *Quercus (rubra, montana)* - *Fraxinus americana* / *Viburnum rafinesqueanum* / *Piptochaetium avenaceum* Forest (USNVC: C EGL006209). Global/State Ranks: G1G2/S1.

Rare Flora

Extant Flora

White Bear Sedge (*Carex albursina*) G5/S3 (last vouchered in 2004; observed by Soreng in 2020)

Pubescent Sedge (*Carex hirtifolia*) G5/S3 (last vouchered in 1934)

Flat-spiked Sedge (*Carex planispicata*) G4Q/S1S2 (*R.H. Simmons* 3525, 4 May 2013)

Northern Leatherflower (*Clematis viorna*) G5/S3 (last vouchered in 1982)
 Needle-leaf Panic Grass (*Dichanthelium aciculare*) G5/S2? (R.J. Soreng, 8289a, 25 May 2013)
 Open-flower Panic Grass (*Dichanthelium laxiflorum*) G5/S1? (last vouchered in 1960; photographed by Simmons in 2015)
 Leatherwood (*Dirca palustris*) G4/S2 T (R.H. Simmons 4067, 6 Nov 2015)
 Harbinger of Spring (*Erigenia bulbosa*) G5/S3 (last vouchered in 1983; observed by Soreng in 2020)
 Halberd-leaf Rose-mallow (*Hibiscus laevis*) G5/S3 (last vouchered in 1982; photographed by Soreng in 2020)
 Green Violet (*Hybanthus concolor*) G5/S3 (last vouchered in 1960)
 Ostrich Fern (*Matteuccia struthiopteris*) G5/S2S3 (One of the largest known stands in the state. R.H. Simmons 3532, 5 May 2013)
 Two-flower Melic (*Melica mutica*) G5/S3 (last vouchered in 2015, R.J. Soreng 8340)
 Horse-tail Paspalum (*Paspalum fluitans*) G5/S2 E (E.F. Wells 4507, 20 Sep 1997)
 Coville's Phacelia (*Phacelia covellei*) G3/S2 E (R.H. Simmons 3920, 14 May 2015)
 Miami-mist (*Phacelia purshii*) G5/S3 (last vouchered in 1983; observed by Soreng on mossy rocks by plot 21 between 2013 and 2015)
 Hairy Hop-tree (*Ptelea trifoliata* var. *mollis*) G5/S3 (R.H. Simmons 3585, 2 Jun 2013)
 Smooth Wild-petunia (*Ruellia strepens*) G4G5/S2S3 (R.H. Simmons 4221, 9 Oct 2016)
 Pale Dock (*Rumex altissimus*) G5/S1 E (last vouchered in 1997)
 Sticky Goldenrod (*Solidago racemosa*) G5T3?/S1 T (photographed by Soreng in 2020)
 Pink Valerian (*Valeriana pauciflora*) G4/S1 E (last vouchered in 1982)
 Golden-alexanders (*Zizia aurea*) G5/S3 (R.J. Soreng 9336, 29 Apr 2017)

Historic Flora

Earleaf False Foxglove (*Agalinis auriculata*) G3/S1 E (last vouchered in 1936)
 Canada Milkvetch (*Astragalus canadensis* var. *canadensis*) G5/S1 E (last vouchered in 1940)
 Blue Wild Indigo (*Baptisia australis* var. *australis*) G5/S2 T (last seen in 1935 by Killip & Blake)
 Short's Rock Cress (*Boechera dentata*) G5/S3 (last vouchered in 1916)
 Nottoway Valley Brome Grass (*Bromus nottowayanus*) G3G5/S3S4 (last vouchered in 1947)
 Hitchcock's Sedge (*Carex hitchcockiana*) G5/S1 E (last vouchered in 1933)
 Short's Sedge (*Carex shortiana*) G5/S3S4 E (last vouchered in 1928)
 Bur-reed Sedge (*Carex sparganioides*) G5/S3 (last vouchered in 1933)
 Slender Dayflower (*Commelina erecta*) G5/S3 (last vouchered in 1960)
 Spring Coralroot (*Corallorhiza wisteriana*) G5/S1 E (last vouchered in 1915)
 Smartweed Dodder (*Cuscuta polygonorum*) G5/S1 E (last vouchered in 1961)
 Many-flowered Flatsedge (*Cyperus lancastricensis*) G5/S2S3 (last vouchered in 1997)
 Reflexed Flatsedge (*Cyperus refractus*) G5/S2? (last vouchered in 1960)
 Dwarf Larkspur (*Delphinium tricornis*) G5/S3 (last seen in 1935 by Killip & Blake)
 Toothed Tick-trefoil (*Desmodium cuspidatum*) G5/S1 (last vouchered in 1960)
 White Trout Lily (*Erythronium albidum*) G5/S2 T (last vouchered in 1983)
 Downy Milkpea (*Galactia volubilis*) G5/S3 (last vouchered in 1961)
 Striped Gentian (*Gentiana villosa*) G4/S1 E (last vouchered in 1903)
 Western Sunflower (*Helianthus occidentalis*) G5/S1 T (last vouchered in 1940)

Eastern Bloodleaf (*Iresine rhizomatosa*) G5/S1 E (last vouchered in 1915)
 †Violet Bush-clover (*Lespedeza frutescens*) G5/S3 (last vouchered in 1960)
 Bog Twayblade (*Liparis loeselii*) G5/S1S2 (last vouchered in 1917)
 Climbing Milkvine (*Matelea obliqua*) G4?/S1S2 E (last vouchered in 1937)
 Purple Mecardonia (*Mecardonia acuminata* var. *acuminata*) G5/S2 E (last vouchered in 1939)
 Basal Beebalm (*Monarda clinopodia*) G5/S3S4 (last vouchered in 1982)
 Early Forget-me-not (*Myosotis verna*) G5/S3 (last vouchered in 1962)
 Racemed Milkwort (*Polygala polygama*) G5/S1 T (last vouchered in 1950)
 Small Pondweed (*Potamogeton pusillus* ssp. *pusillus*) G5/S2S4 (last vouchered in 1930)
 Whorled Mountain-mint (*Pycnanthemum verticillatum*) G5/S1 E (last vouchered in 1951)
 Virginia Sida (*Ripariosida hermaphrodita*) G3/S1 E (last vouchered in 1938)
 Brown-eyed Susan (*Rudbeckia triloba*) G5/S3 (last vouchered in 1940)
 Sessile-fruited Arrowhead (*Sagittaria rigida*) G5/S1 E (last vouchered in 1930)
 Carolina Willow (*Salix caroliniana*) G5/S3 (last vouchered in 1982)
 Snowy Campion (*Silene nivea*) G4?/S1 E (last vouchered in 1917)
 Riverbank Goldenrod (*Solidago rupestris*) G4?/S1 X (last vouchered in 1903)
 Sand Grape (*Vitis rupestris*) G3/S1 (last vouchered in 1906)

†[= *Lespedeza violacea* (L.) Pers. (misapplied); “Due to a problem with the type specimen of *Lespedeza intermedia*, the name *Lespedeza violacea*, by which this species has long been known, applies to *L. intermedia*, and the name *L. frutescens* now applies to [*Lespedeza violacea*]” (VBA 2020)]

Key to Global Rank

- G1: At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- G2: At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
- G3: At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
- G4: Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5: Common, widespread, and abundant.
- GH: Known only from historical occurrences but still some hope of rediscovery.
- GNR: Not ranked.
- GX: Not located despite intensive searches and virtually no likelihood of rediscovery.

Key to State Rank

- S1: At very high risk of extirpation from the state due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- S2: At high risk of extirpation from the state due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
- S3: At moderate risk of extirpation from the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.

S4: Uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5: Common, widespread, and abundant.

SH: Known only from historical occurrences but still some hope of rediscovery.

SNR: Not ranked.

SX: Not located despite intensive searches and virtually no likelihood of rediscovery.

Federal and State Status

Legal status denotes a simple hierarchy of endangerment in three categories: Endangered (E), Threatened (T), and Endangered Extirpated (X). Federal Status is determined by the U.S. Fish and Wildlife Service.

Federal Status

LE = Listed Endangered - A taxon is threatened with extinction throughout all or a significant portion of its range.

LT = Listed Threatened - A taxon is likely to become endangered in the foreseeable future.

State Status

E = Endangered - A taxon is threatened with extinction throughout all or a significant portion of its range.

T = Threatened - A taxon is likely to become endangered in the foreseeable future.

References

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Cover photo:

A female Silver-spotted Skipper (*Epargyreus clarus*) possibly obtaining nectar from a Northern Leatherflower (*Clematis viorna*). Photo by Meghan T. First.