
COMMONWEALTH of VIRGINIA

Natural Heritage Resources of Virginia: Rare Animals

Compiled by:
Steven M. Roble, Zoologist



Virginia Department of Conservation and Recreation
Division of Natural Heritage, Richmond, Virginia
Natural Heritage Technical Report 16-07. February 2016



Department of Conservation & Recreation

CONSERVING VIRGINIA'S NATURAL AND RECREATIONAL RESOURCES

NATURAL HERITAGE RESOURCES OF VIRGINIA:

RARE ANIMALS

FEBRUARY 2016

**VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION
DIVISION OF NATURAL HERITAGE
600 EAST MAIN STREET
RICHMOND, VIRGINIA 23219
(804) 786-7951**

List Compiled by

**Steven M. Roble
Staff Zoologist**

Cover illustrations (left to right) by Megan Rollins

**Indiana Myotis
Red-cockaded Woodpecker
Regal Fritillary**

This report should be cited as:

Roble, S.M. 2016. Natural Heritage Resources of Virginia:
Rare Animals. Natural Heritage Technical Report 16-07.
Virginia Department of Conservation and Recreation, Division
of Natural Heritage, Richmond, Virginia. 56 pp.

TABLE OF CONTENTS

INTRODUCTION	1
LIST FORMAT	3
PRIMARY SOURCES OF COMMON NAMES	7
PART ONE. RARE ANIMAL LIST	9
VERTEBRATES	10
FISH	10
AMPHIBIANS	12
REPTILES.....	12
BIRDS	13
MAMMALS	15
INVERTEBRATES	16
TURBELLARIA (FLATWORMS)	16
GASTROPODA (SNAILS).....	16
BIVALVIA (MUSSELS & CLAMS).....	17
ANNELIDA (SEGMENTED WORMS).....	18
ARACHNIDA (SPIDERS, PSEUDOSCORPIONS & RELATIVES).....	18
CRUSTACEA (AMPHIPODS, ISOPODS & DECAPODS)	19
DIPLOPODA (MILLIPEDES).....	20
CHILOPODA (CENTIPEDES).....	21
COLLEMBOLA (SPRINGTAILS).....	21
DIPLURA (DIPLURANS).....	22
EPHEMEROPTERA (MAYFLIES).....	22
ODONATA (DAMSELFLIES & DRAGONFLIES)	22
PLECOPTERA (STONEFLIES).....	24
ORTHOPTERA (GRASSHOPPERS, KATYDIDS, CRICKETS & RELATIVES).....	24
HEMIPTERA (TRUE BUGS, CICADAS, LEAFHOPPERS & RELATIVES)	24
COLEOPTERA (BEETLES).....	25
MECOPTERA (SCORPIONFLIES)	26
TRICHOPTERA (CADDISFLIES).....	26
LEPIDOPTERA (BUTTERFLIES, SKIPPERS & MOTHS).....	27
DIPTERA (TRUE FLIES).....	30
HYMENOPTERA (BEES, WASPS, ANTS & RELATIVES)	30
ANIMAL ASSEMBLAGES	30
PART TWO. ANIMAL WATCHLIST	31
PART THREE. ANIMAL REVIEW LIST (TAXA OF UNCERTAIN STATUS)	41
APPENDIX 1. FEDERALLY ENDANGERED AND THREATENED VERTEBRATES OF VIRGINIA	49
APPENDIX 2. FEDERALLY ENDANGERED AND THREATENED INVERTEBRATES OF VIRGINIA	50
APPENDIX 3. EXTINCT AND EXTIRPATED ANIMALS OF VIRGINIA	51
APPENDIX 4. LIST OF SYNONYMS	52
APPENDIX 5. RARE SPECIES SIGHTING FORM	56

NATURAL HERITAGE RESOURCES OF VIRGINIA: RARE ANIMALS

FEBRUARY 2016

INTRODUCTION

The Virginia Department of Conservation and Recreation's Division of Natural Heritage (DCR-DNH) was established in 1986 to protect Virginia's biological diversity. DCR-DNH is the state's first comprehensive program for conservation of our natural heritage, and includes an intensive statewide biological inventory, field surveys, electronic and manual database management, environmental review capabilities, and natural area protection and stewardship. Through its actions the Division identifies Natural Heritage Resources that are in need of conservation attention while creating an efficient means of evaluating the impacts of balanced economic growth. Natural Heritage Resources are defined in the Virginia Natural Area Preserves Act of 1989 (Section 10.1-209 through 217, Code of Virginia), as the habitat of rare, threatened, and endangered plant and animal species; exemplary natural communities, habitats, and ecosystems; and other natural features of the Commonwealth.

To achieve this protection, DCR-DNH maintains lists of the most significant elements of our natural diversity. These lists focus the Division's inventory on the Natural Heritage Resources most likely to be lost without conservation action in the near future. Most importantly, these lists are useful not only for DCR-DNH, but can be used by other agencies, organizations, and individuals to assist in the determination of actions in protection and development decision-making. In formulating these lists, the Division uses information from previous studies, museum records, observations and opinions of experts, DCR-DNH staff scientists, and field inventories.

The first list included in this report is the Rare Animal List. This list contains information on the legal and biological status of Virginia's rarest known native animals, including vertebrates, insects, and selected other invertebrate groups, **793** in total (189 vertebrates, 604 invertebrates). This list includes those species that are believed to be sufficiently rare or threatened to merit an inventory of their status and locations. Certain marine species that are listed as federally endangered or threatened are only included in the appendices. Only those species that use discrete habitat patches or can directly benefit from habitat protection are included in the main taxonomic lists.

The second list included in this report is the Animal Watchlist. This list contains information on the legal and biological status of **347** additional taxa (74 vertebrates, 273 invertebrates) that are decidedly uncommon in Virginia but not scarce enough to merit inclusion on the Rare Animal List. Species on this list are monitored to determine general population trends, and if a particular species is found to be rare or threatened, it is placed on the Rare Animal List. Some species included on the Animal Watchlist were formerly on the Rare Animal List but have been determined to be more common than previously believed. Other species on the Watchlist are declining and may warrant placement on the Rare Animal List in the future if their populations continue to decline.

The third list included in this report is the Animal Review List (Taxa of Uncertain Status). Many of these species lack numerical ranks, indicating that they are poorly known from a distributional and/or taxonomic standpoint. Although some of these species may prove to be conservation targets, more field and museum data are needed to assess their degree of rarity in Virginia and/or taxonomic status. There are **273** species (5 vertebrates, 268 invertebrates) in this category.

Natural Heritage Resource lists are necessarily dynamic, with updates occurring as new data become available. Such revisions assure the most current knowledge of the status of Virginia's animals. Animals are added to the list when it is determined that they have become rare or threatened to such an extent that their continued existence in the Commonwealth is in jeopardy. Animals are deleted from the list when additional field surveys or other new data indicate they are more common than previously believed and do not warrant priority conservation efforts.

All animals that are officially protected by federal or state endangered species acts are included in this list (except as noted above). Federally listed species are protected by the Endangered Species Act of 1973, as amended. The U.S. Department of the Interior's Fish and Wildlife Service administers the Act, listing and protecting federally endangered and threatened species. The Virginia Department of Game and Inland Fisheries has the regulatory responsibility for the listing and protection of the state's endangered and threatened animals (excluding the Class Insecta) under the Virginia Endangered Species Act (Section 29.1-564 through 570, Code of Virginia). The Office of Plant Protection within the Virginia Department of Agriculture and Consumer Services has regulatory

responsibility for the listing and protection of the state's insects (and plants) under the Virginia Endangered Plant and Insect Act (Section 3.1-1020 through 1030, Code of Virginia). DCR-DNH is a primary source of recommendations to each of the regulatory agencies for species that are in need of listing as endangered or threatened.

The Virginia Department of Conservation and Recreation, the U.S. Fish and Wildlife Service, the Virginia Department of Game and Inland Fisheries, and the Virginia Department of Agriculture and Consumer Services work cooperatively to insure the continued survival of Virginia's diverse fauna and other elements of natural diversity. The Division of Natural Heritage also works closely with many other state and federal agencies, local governments, conservation organizations, and many other organizations and individuals to seek adequate protection of Virginia's natural heritage.

LIST FORMAT

The lists are sorted by broad taxonomic groups and then ordered alphabetically by scientific name within each group. The format of each list consists of six fields: scientific name, common name, global rank, state rank, federal status, and state status. These fields are also used in the lists appearing in Appendices 1-3. To aid in the interpretation of the lists, a brief explanation of each field and a summary of abbreviations follow.

Column 1. Scientific name:

Nomenclature of animals is not contained in any single source. The most recent taxonomic sources are examined by the staff zoologist and, when necessary, direct consultations with experts are used to maintain the most scientifically accepted names for all animal groups. Divergences from these opinions are rare and generally occur only while an ongoing taxonomic study is being conducted. Contact the staff zoologist if you have questions or comments regarding the scientific names used herein.

Column 2. Common name:

A common name is provided for the convenience of the user. Standard common names have been developed and universally adopted for only a few animal groups; therefore, the user is cautioned to use scientific names whenever possible. The common names for most vertebrates and a few selected aquatic invertebrate groups (e.g., mussels) are recognized as stable. Most invertebrate species lack common names and it may not be practical to provide such names. They are usually indicated in the list as “a caddisfly”, “a millipede”, etc. The primary sources of common names applied to species in selected groups included in this list can be found on page 7. Many other common names that appear in the list, especially those of invertebrates, are not widely used or universally accepted.

Column 3. Global rank:

Global ranks are assigned by a consensus of the network of natural heritage programs, scientific experts, and NatureServe (a non-profit conservation organization) to designate the rangewide rarity of a species or subspecies. This system was originally developed by The Nature Conservancy and is widely used by other agencies (e.g., U.S. Fish and Wildlife Service, U.S. Forest Service) and organizations as the best available scientific and objective assessment of an animal's rarity and the level of threat to its existence. The ranks are assigned after considering a suite of factors including the number of occurrences (populations), number of individuals, and severity of threats to the species and its habitats. Global ranks found in the Rare Animal List are explained below:

- G1 Extremely rare and critically imperiled with 5 or fewer occurrences or very few remaining individuals; or because of some factor(s) making it especially vulnerable to extinction.
- G2 Very rare and imperiled with 6 to 20 occurrences or few remaining individuals; or because of some factor(s) making it vulnerable to extinction.
- G3 Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range; or vulnerable to extinction because of other factors. Usually fewer than 100 occurrences are documented.
- G4 Common and apparently secure globally, although it may be rare in parts of its range, especially at the periphery.
- G5 Very common and demonstrably secure globally, although it may be rare in parts of its range, especially at the periphery.
- GH Formerly part of the world's fauna with some expectation that it may be rediscovered; generally applies to species that have not been verified for an extended period (usually >15 years) and for which some inventory has been attempted recently.
- GX Believed to be extinct throughout its range with virtually no likelihood of rediscovery.

GU	Possibly rare, but status uncertain and more data needed.
G?	Unranked, or, if following a numerical ranking, rank uncertain (e.g., G3?).
G_G_	The rank is uncertain, but considered to be within the indicated range (e.g., G2G4) of ranks (also, T_T_).
G_Q	Taxon has a questionable taxonomic assignment (e.g., G3Q) and may prove to be invalid upon further study.
G_T_	Signifies the rank of a subspecies (e.g., G5T1 would apply to a subspecies if the species is demonstrably secure globally (G5) but the subspecies warrants a rank of T1, critically imperiled.)
GNR	A global conservation status rank has not been assigned to the species.

Column 4. State rank:

State ranks are assigned in a manner similar to that described for global ranks, with values that generally range from S1-S5, but consider only factors within the political boundaries of Virginia. For example, an animal that is endemic to Virginia (found nowhere else in the world) will have the same global and state ranks, whereas a species that may be common in the northeastern United States but only known from a few occurrences in Virginia will have global and state ranks that differ. State ranks found in the Rare Animal List are explained below:

S1	Extremely rare and critically imperiled with 5 or fewer occurrences or very few remaining individuals in Virginia; or because of some factor(s) making it especially vulnerable to extirpation in Virginia.
S2	Very rare and imperiled with 6 to 20 occurrences or few remaining individuals in Virginia; or because of some factor(s) making it vulnerable to extirpation in Virginia.
S3	Rare to uncommon in Virginia with between 20 and 100 occurrences; may have fewer occurrences if found to be common or abundant at some of these locations; may be somewhat vulnerable to extirpation in Virginia.
S4	Common and apparently secure in Virginia, although it may be rare in parts of its range.
SH	Formerly part of Virginia's fauna with some expectation that it may be rediscovered; generally applies to species that have not been verified in the state for an extended period (usually >15 years) and for which some inventory has been attempted recently.
SX	Believed to be extirpated from Virginia with virtually no likelihood of rediscovery.
SU	Possibly rare, but status uncertain and more data needed.
S_?	Rank uncertain. For example the rank S2? denotes a species that may range from S1 to S3.
S_S_	Rank is uncertain, but considered to be within the indicated range of ranks (e.g., S2S4).
S_B	Breeding status of an animal (primarily used for birds) in Virginia; these species typically inhabit Virginia only during the breeding season.
S_B/S_N	Breeding and nonbreeding status of an animal (primarily used for birds) in Virginia, when they differ.
SNA	A conservation status rank is not applicable because the species is not a suitable target for conservation activities in Virginia (includes accidental species, transients, exotics, etc.).
SNR	A state conservation status rank has not been assigned to the species.

Column 5. Federal status:

Federal status is determined by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. This status is used for all animals listed as endangered or threatened by the U.S. government and receiving protection under the federal Endangered Species Act. The list also notes those species that have been formally proposed for listing or are currently candidates under consideration for listing. The federal status formerly known as “Category 2, candidate species” was abolished on February 28, 1996; species formerly designated as “Category 1, candidate species” are now referred to simply as “candidate species.”

LE Listed Endangered. A species threatened with extinction throughout all or a significant portion of its range.

LT Listed Threatened. A species likely to become endangered in the foreseeable future.

LE/PT Currently listed as endangered but proposed for downlisting to threatened.

LT/SA Listed as Threatened due to Similarity of Appearance. The species so closely resembles an endangered or threatened species or population that enforcement personnel of the U.S. Fish and Wildlife Service cannot readily distinguish between the taxa (e.g., the northern population of the bog turtle is federally listed as endangered, but turtles from the southern population, which includes Virginia, are not readily distinguishable from them).

PE Proposed Endangered. A species proposed for listing as endangered.

PT Proposed Threatened. A species proposed for listing as threatened.

C Candidate. There is enough available information to propose the species for listing, but listing is “precluded by other pending proposals of higher priority”. (Formerly Candidate, Category 1)

Column 6. State status:

State status is determined by the Virginia Department of Game and Inland Fisheries (all animals except insects) and the Virginia Department of Agriculture and Consumer Services (insects only). The informal category of “Special Concern” species that was previously maintained by the Virginia Department of Game and Inland Fisheries was abolished by that agency on January 1, 2011.

LE Listed Endangered; defined as a species that is in danger of extinction throughout all or a significant portion of its range.

LT Listed Threatened; defined as a species that is likely to become endangered within the foreseeable future.

LT/PDL Listed as Threatened but proposed for delisting (removal from the state list of Endangered and Threatened wildlife). However, at the present time, the species is still listed as Threatened pending further action and is thus protected under Virginia’s Endangered Species Act.

PE Proposed Endangered. A species proposed for listing as endangered.

PT Proposed Threatened. A species proposed for listing as threatened.

The following table summarizes the ranks and legal status of the rarest animals tracked by the Virginia Department of Conservation and Recreation, Division of Natural Heritage (pages 10-30 of this list).

Rank ^a	Fish	Amphibians	Reptiles	Birds ^b	Mammals	Invertebrates
GH	0	0	0	0	1	5
G1	7	1	1	0	0	170
G2	10	3	0	2	6	118
G3	15	4	4	6	9	117
SX	3	0	0	0	1	5
SH	2	0	1	6	0	54
S1	30	4	8	38	11	323
S2	36	15	5	23	6	217
Totals	71	19	14	67	18	604
Legal Status ^c						
FE	4	1	1	2	5	31
FT	4	0	2	2	1	2
PFE	0	0	0	0	0	1
SE	8	2	4	5	11	50
PSE	0	0	0	0	2	0
ST	14	2	3	7	0	14
PST	0	0	0	1	1	0

^a Rounded ranks (e.g., G1G2 is combined with G1, S2S3 with S2, G2G4 is treated as G3, S1S3 is treated as S2, etc.); also T ranks are treated as equivalent to G ranks for the purposes of this table.

^b Breeding ranks of birds were used as the S ranks for the purposes of this table (except for Red Knot).

^c FE = Federally Endangered; FT = Federally Threatened; PFE = Proposed Federally Endangered; SE = State Endangered; PSE = Proposed State Endangered; ST = State Threatened; PST = Proposed State Threatened.

Changes in legal status since the March 2013 DCR rare animal list

New Listings:

Fluted Kidneyshell and Slabside Pearlymussel – listed as endangered by the U.S. Fish and Wildlife Service in September 2013.

Thomas' cave beetle – listed as endangered by the Virginia Department of Agriculture and Consumer Services in December 2013.

Red Knot – listed as threatened by the U.S. Fish and Wildlife Service in January 2015.

Northern Long-eared Myotis (bat) – listed as threatened by the U.S. Fish and Wildlife Service in May 2015.

Delistings:

Virginia Northern Flying Squirrel – delisted by the U.S. Fish and Wildlife Service in March 2013.

Delmarva Fox Squirrel – delisted by the U.S. Fish and Wildlife Service in December 2015.

PRIMARY SOURCES OF COMMON NAMES

Fish

Nelson, J.S., E.J. Crossman, H. Espinosa-Pérez, L.T. Findley, C.R. Gilbert, R.N. Lea, and J.D. Williams. 2004. Common and Scientific Names of Fishes from the United States, Canada, and Mexico. Sixth Edition. American Fisheries Society, Special Publication 29, Bethesda, Maryland. 386 pp.

Amphibians and Reptiles

Crother, B.I. (editor). 2012. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding. 7th Edition. Society for the Study of Amphibians and Reptiles, Herpetological Circular Number 39. 92 pp.

Birds

American Ornithologists' Union. 1998. Check-list of North American Birds. Seventh Edition. American Ornithologists' Union, Washington, D.C. 829 pp. [as modified by subsequent supplements and corrections published in *The Auk*].

Mammals

Baker, R.J., L.C. Bradley, R.D. Bradley, J.W. Dragoo, M.D. Engstrom, R.S. Hoffmann, C.A. Jones, F. Reid, D.W. Rice, and C. Jones. 2003. Revised Checklist of North American Mammals North of Mexico, 2003. Texas Tech University Museum, Occasional Paper Number 229. 23 pp.

Gastropoda and Bivalvia

Turgeon, D.D., J.F. Quinn, Jr., A.E. Bogan, E.V. Coan, F.G. Hochberg, W.G. Lyons, P.M. Mikkelsen, R.J. Neves, C.F.E. Roper, G. Rosenberg, B. Roth, A. Scheltema, M.J. Sweeney, F.G. Thompson, M. Vecchione, and J.D. Williams. 1998. Common and Scientific Names of Aquatic Invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society, Special Publication 26, Bethesda, Maryland. 526 pp.

Crustacea

McLaughlin, P.A., D.K. Camp, M.V. Angel, E.L. Bousfield, P. Brunel, R.C. Brusca, D. Cadien, A.C. Cohen, K. Conlan, L.G. Eldredge, D.L. Felder, J.W. Goy, T. Haney, B. Hann, R.W. Heard, E.A. Hendrycks, H.H. Hobbs III, J.R. Holsinger, B. Kensley, D.R. Laubitz, S.E. LeCroy, R. Lemaitre, R.F. Maddocks, J.W. Martin, P. Mikkelsen, E. Nelson, W.A. Newman, R.M. Overstreet, W.J. Poly, W.W. Price, J.W. Reid, A. Robertson, D.C. Rogers, A. Ross, M. Schotte, F. Schram, C. Shih, L. Watling, G.D.F. Wilson, and D.D. Turgeon. 2005. Common and Scientific Names of Aquatic Invertebrates from the United States and Canada: Crustaceans. American Fisheries Society, Special Publication 31, Bethesda, Maryland. 545 pp.

Odonata

Paulson, D.R. and S.W. Dunkle. 1999 (updated 2012). A Checklist of North American Odonata. Slater Museum of Natural History, University of Puget Sound Occasional Paper 56. 86 pp.

Plecoptera

Stark, B.P., K.W. Stewart, S.W. Szczytko, and R.W. Baumann. 1998. Common names of stoneflies (Plecoptera) from the United States and Canada. Ohio Biological Survey Notes 1: 1-18.

Coleoptera

Pearson, D.L. 2004. A list of suggested common English names for species of tiger beetles occurring in Canada and the U.S. *Cicindela* 36(1-2): 31-40.

Lepidoptera

Covell, C.V., Jr. 2005. A Field Guide to Moths of Eastern North America. Virginia Museum of Natural History Special Publication Number 12. Martinsville, VA. 496 pp.

Glassberg, J. 1999. Butterflies Through Binoculars – The East: A Field Guide to the Butterflies of Eastern North America. Oxford University Press, New York, NY. 242 pp.

PART ONE:
RARE ANIMAL LIST

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
VERTEBRATES					
FISH					
<i>Acipenser brevirostrum</i>	Shortnose sturgeon	G3	SHB/S1N	LE	LE
<i>Acipenser oxyrinchus</i> = <i>Acipenser oxyrhynchus</i>	Atlantic sturgeon	G3	S2	LE	LE
<i>Ameiurus brunneus</i>	Snail bullhead	G4	S2		
<i>Ammocrypta clara</i> = <i>Etheostoma clarum</i>	Western sand darter	G3	S1		LT
<i>Aplodinotus grunniens</i>	Freshwater drum	G5	S2		
<i>Chrosomus cumberlandensis</i> = <i>Phoxinus cumberlandensis</i>	Blackside dace	G2	S1	LT	LT
<i>Chrosomus tennesseensis</i> = <i>Phoxinus tennesseensis</i>	Tennessee dace	G3	S1		LE
<i>Chrosomus</i> sp. 1	Clinch dace	G1	S1		
<i>Cyprinella labrosa</i> = <i>Hybopsis labrosa</i>	Thicklip chub	G4	SH		
<i>Cyprinella whipplei</i> = <i>Notropis whipplei</i>	Steelcolor shiner	G5	S1		LT
<i>Enneacanthus chaetodon</i>	Blackbanded sunfish	G3G4	S1		LE
<i>Erimonax monachus</i> = <i>Cyprinella monacha</i> , = <i>Hybopsis monacha</i>	Spotfin chub (= turquoise shiner)	G2	S1	LT	LT
<i>Erimystax cahni</i> = <i>Hybopsis cahni</i>	Slender chub	G1	S1	LT	LT
<i>Erimyzon sucetta</i>	Lake chubsucker	G5	S2		
<i>Etheostoma acuticeps</i>	Sharphead darter	G3	S1		LE
<i>Etheostoma brevispinum</i>	Carolina fantail darter	G4	S1		
<i>Etheostoma caeruleum</i>	Rainbow darter	G5	S2		
<i>Etheostoma camurum</i>	Bluebreast darter	G4	S2		
<i>Etheostoma chlorobranchium</i>	Greenfin darter	G4	S1		LT
<i>Etheostoma cinereum</i>	Ashy darter	G2G3	S1		
<i>Etheostoma collis</i>	Carolina darter	G3	S2		LT
<i>Etheostoma denoncourti</i> = <i>Etheostoma tippecanoe</i> (in part)	Golden darter	G2	S1		LT
<i>Etheostoma jessiae</i> = <i>Etheostoma stigmaeum jessiae</i>	Blueside darter	G4	S1		
<i>Etheostoma meadiae</i> = <i>Etheostoma stigmaeum meadiae</i>	Bluespar darter	G4	S2		
<i>Etheostoma osburni</i>	Candy darter	G3	S1		
<i>Etheostoma percnurum</i>	Duskytail darter	G1	S1	LE	LE
<i>Etheostoma swannanoa</i>	Swannanoa darter	G4	S2		
<i>Etheostoma variatum</i>	Variegated darter	G5	S1		LE
<i>Etheostoma vulneratum</i>	Wounded darter	G3	S2S3		
<i>Fundulus rathbuni</i>	Speckled killifish	G4	S2		
<i>Hybopsis hypsinotus</i> = <i>Notropis hypsinotus</i>	Highback chub	G4	S2		
<i>Ichthyomyzon bdellium</i>	Ohio lamprey	G3G4	S2		
<i>Ichthyomyzon greeleyi</i>	Mountain brook lamprey	G4	S2		
<i>Labidesthes sicculus</i>	Brook silverside	G5	S2		
<i>Lythrurus lirus</i> = <i>Notropis lirus</i>	Mountain shiner	G4	S2S3		

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE
STATUS					
FISH (continued)					
<i>Moxostoma carinatum</i>	River redhorse	G4	S2S3		
<i>Moxostoma</i> sp. 4	Brassy jumprock	G4	S1S2		
<i>Notropis alborus</i>	Whitemouth shiner	G4	S1		LT
<i>Notropis ariommus</i>	Popeye shiner	G3	S2S3		
<i>Notropis atherinoides</i>	Emerald shiner	G5	S1S2		LT
<i>Notropis bifrenatus</i>	Bridle shiner	G3	S2		
<i>Notropis semperasper</i>	Roughhead shiner	G2G3	S2S3		
<i>Notropis spectrunculus</i>	Mirror shiner	G4	S2		
<i>Notropis stramineus</i>	Sand shiner	G5	S2		
<i>Noturus eleutherus</i>	Mountain madtom	G4	S2S3		
<i>Noturus flavipinnis</i>	Yellowfin madtom	G1	S1	LT	LT
<i>Noturus flavus</i>	Stonecat	G5	S2		
<i>Noturus gilberti</i>	Orangefin madtom	G2	S2		LT
<i>Percina aurantiaca</i>	Tangerine darter	G4	S2S3		
<i>Percina bimaculata</i>	Chesapeake logperch	G1G2	SX		
<i>Percina burtoni</i>	Blotchside logperch	G2G3	S1		
<i>Percina copelandi</i>	Channel darter	G4	S2		
<i>Percina crassa</i>	Piedmont darter	G4	S1		
<i>Percina evides</i>	Gilt darter	G4	S2		
<i>Percina maculata</i>	Blackside darter	G5	SX		
<i>Percina rex</i>	Roanoke logperch	G1G2	S1S2	LE	LE
<i>Percina sciera</i>	Dusky darter	G5	S1S2		
<i>Percina williamsi</i>	Sickle darter	G2	S1S2		LT
= <i>Percina macrocephala</i> (in part)					
<i>Percopsis omiscomaycus</i>	Trout-perch	G5	SX		
<i>Phenacobius crassilabrum</i>	Fatlips minnow	G3G4	S2		
<i>Phenacobius mirabilis</i>	Suckermouth minnow	G5	S1S2		
<i>Phenacobius teretulus</i>	Kanawha minnow	G3G4	S2S3		
<i>Pimephales vigilax</i>	Bullhead minnow	G5	S1		
<i>Polyodon spathula</i>	Paddlefish	G4	S1		LT
<i>Sander canadensis</i>	Sauger	G5	S2S3		
= <i>Stizostedion canadense</i>					
<i>Thoburnia hamiltoni</i>	Rustyside sucker	G3	S2		
= <i>Moxostoma hamiltoni</i>					
<i>Uranidea baileyi</i>	Black sculpin	G4Q	S2		
= <i>Cottus baileyi</i>					
<i>Uranidea cognata</i>	Slimy sculpin	G5	S2		
= <i>Cottus cognatus</i>					
<i>Uranidea</i> sp. 1	Bluestone sculpin	G2	S2		
= <i>Cottus</i> sp. 1					
<i>Uranidea</i> sp. 4	Clinch sculpin	G1G2	S1S2		
= <i>Cottus</i> sp. 4					
<i>Uranidea</i> sp. 5	Holston sculpin	G2	S2		
= <i>Cottus</i> sp. 5					

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
AMPHIBIANS					
<i>Ambystoma mabeei</i>	Mabee's salamander	G4	S1S2		LT
<i>Ambystoma talpoideum</i>	Mole salamander	G5	S2		
<i>Ambystoma tigrinum</i>	Tiger salamander	G5	S1		LE
<i>Anaxyrus quercicus</i> = <i>Bufo quercicus</i>	Oak toad	G5	S2		
<i>Cryptobranchus alleganiensis</i>	Hellbender	G3G4	S2		
<i>Desmognathus marmoratus</i> = <i>Leurognathus marmoratus</i>	Shovel-nosed salamander	G4	S2		
<i>Desmognathus organi</i>	Northern Pygmy salamander	G3	S2		
<i>Eurycea wilderae</i>	Blue Ridge two-lined salamander	G5	S2		
<i>Hyla gratiosa</i>	Barking treefrog	G5	S2		LT
<i>Necturus maculosus</i>	Mudpuppy	G5	S2		
<i>Necturus punctatus</i>	Dwarf waterdog	G5	S2S3		
<i>Plethodon hubrichti</i>	Peaks of Otter salamander	G2	S2		
<i>Plethodon punctatus</i>	Cow Knob salamander	G3	S2		
<i>Plethodon shenandoah</i>	Shenandoah salamander	G1	S1	LE	LE
<i>Plethodon sherando</i>	Big Levels salamander	G2	S2		
<i>Plethodon ventralis</i>	Southern zigzag salamander	G4	S1		
<i>Plethodon virginia</i>	Shenandoah Mountain salamander	G2G3	S2		
<i>Plethodon welleri</i>	Weller's salamander	G3	S2		
<i>Siren intermedia</i>	Lesser siren	G5	S2S3		
REPTILES					
<i>Apalone spinifera</i> = <i>Trionyx spiniferus</i>	Spiny softshell	G5	S2		
<i>Caretta caretta</i>	Loggerhead (sea turtle)	G3	S1B/S1N	LT	LT
<i>Crotalus horridus</i> [Coastal Plain population]	Canebrake rattlesnake	G4	S1		LE
<i>Deirochelys reticularia</i>	Chicken turtle	G5	S1		LE
<i>Glyptemys insculpta</i> = <i>Clemmys insculpta</i>	Wood turtle	G3	S2		LT
<i>Glyptemys muhlenbergii</i> = <i>Clemmys muhlenbergii</i>	Bog turtle	G3	S2	LT/SA	LE
<i>Lampropeltis nigra</i> = <i>Lampropeltis getula nigra</i>	Eastern black kingsnake	G5	S2		
<i>Lepidochelys kempii</i>	Kemp's ridley (sea turtle)	G1	S1N	LE	LE
<i>Ophisaurus ventralis</i>	Eastern glass lizard	G5	S1		LT
<i>Pituophis melanoleucus</i>	Pine snake	G4	SH		
<i>Regina rigida</i>	Glossy crayfish snake	G5	S1		
<i>Sternotherus minor</i>	Loggerhead musk turtle	G5	S2		
<i>Trachemys scripta troostii</i>	Cumberland slider	G5T4	S1		
<i>Virginia valeriae pulchra</i>	Mountain earthsnake	G5T3T4	S1S2		

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
BIRDS					
<i>Actitis macularius</i>	Spotted Sandpiper	G5	S1B		
<i>Aegolius acadicus</i>	Northern Saw-whet Owl	G5	S1B/S2N		
<i>Ammodramus caudacutus</i>	Saltmarsh Sparrow	G4	S2B/S3N		
<i>Ammodramus henslowii</i>	Henslow's Sparrow	G4	S1B		LT
<i>Anas discors</i>	Blue-winged Teal	G5	S1B/S2N		
<i>Anas strepera</i>	Gadwall	G5	S2B/S4N		
<i>Aquila chrysaetos</i>	Golden Eagle	G5	SHB/S1N		
<i>Ardea alba</i> = <i>Casmerodius albus</i>	Great Egret	G5	S2S3B/S3N		
<i>Asio flammeus</i>	Short-eared Owl	G5	S1B/S2N		
<i>Asio otus</i>	Long-eared Owl	G5	S1		
<i>Bartramia longicauda</i>	Upland Sandpiper	G5	SHB		LT/PDL
<i>Botaurus lentiginosus</i>	American Bittern	G4	S1B/S2N		
<i>Calidris canutus rufa</i>	Red Knot	G4T2	S2N	LT	PT
<i>Catharus guttatus</i>	Hermit Thrush	G5	S1B/S5N		
<i>Catharus ustulatus</i>	Swainson's Thrush	G5	S1B		
<i>Charadrius melodus</i>	Piping Plover	G3	S2B/S1N	LT	LT
<i>Charadrius wilsonia</i>	Wilson's Plover	G5	S1B		LE
<i>Chondestes grammacus</i>	Lark Sparrow	G5	SHB		
<i>Circus cyaneus</i>	Northern Harrier	G5	S1S2B/S3N		
<i>Cistothorus platensis</i>	Sedge Wren	G5	S1B/S1S2N		
<i>Contopus cooperi</i> = <i>Nuttallornis borealis</i>	Olive-sided Flycatcher	G4	SHB		
<i>Dolichonyx oryzivorus</i>	Bobolink	G5	S1B		
<i>Egretta caerulea</i>	Little Blue Heron	G5	S2B/S3N		
<i>Egretta thula</i>	Snowy Egret	G5	S2B/S3N		
<i>Egretta tricolor</i>	Tricolored Heron	G5	S2B/S3N		
<i>Empidonax alnorum</i>	Alder Flycatcher	G5	S1S2B		
<i>Empidonax flaviventris</i>	Yellow-bellied Flycatcher	G5	S1B		
<i>Eudocimus albus</i>	White Ibis	G5	S1B		
<i>Falco peregrinus</i>	Peregrine Falcon	G4	S1B/S2N		LT
<i>Fulica americana</i>	American Coot	G5	S1B/S5N		
<i>Gallinula galeata</i> = <i>Gallinula chloropus</i> (in part)	Common Gallinule	G5	S1B/S1N		
<i>Gelochelidon nilotica</i> = <i>Sterna nilotica</i>	Gull-billed Tern	G5	S2B		LT
<i>Geothlypis philadelphia</i> = <i>Oporornis philadelphia</i>	Mourning Warbler	G5	S1B		
<i>Haemorhous purpureus</i> = <i>Carpodacus purpureus</i>	Purple Finch	G5	S1B/S5N		
<i>Himantopus mexicanus</i>	Black-necked Stilt	G5	S1B		
<i>Hydroprogne caspia</i> = <i>Sterna caspia</i>	Caspian Tern	G5	S1B/S2N		
<i>Lanius ludovicianus</i>	Loggerhead Shrike	G4	S1B/S2N		LT
<i>Laterallus jamaicensis</i>	Black Rail	G3G4	S1B/S1N		LE
<i>Limnothlypis swainsonii</i>	Swainson's Warbler	G4	S2B		
<i>Loxia curvirostra</i>	Red Crossbill	G5	S1		

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
BIRDS (continued)					
<i>Melospiza georgiana georgiana</i>	Swamp Sparrow	G5T5	S1B/S4S5N		
<i>Melospiza georgiana nigrescens</i>	Coastal Plain Swamp Sparrow	G5T3	S1B		
<i>Mergus merganser</i>	Common Merganser	G5	S1B/S4N		
<i>Nyctanassa violacea</i> = <i>Nycticorax violaceus</i>	Yellow-crowned Night-heron	G5	S2S3B/S3N		
<i>Oreothlypis ruficapilla</i> = <i>Vermivora ruficapilla</i>	Nashville Warbler	G5	S1B		
<i>Parlesia noveboracensis</i> = <i>Seiurus noveboracensis</i>	Northern Waterthrush	G5	S1B		
<i>Pelecanus occidentalis</i>	Brown Pelican	G4	S2B/S3N		
<i>Peucaea aestivalis</i> = <i>Aimophila aestivalis</i>	Bachman's Sparrow	G3	S1B		LT
<i>Picoides borealis</i>	Red-cockaded Woodpecker	G3	S1	LE	LE
<i>Plegadis falcinellus</i>	Glossy Ibis	G5	S2B/S1N		
<i>Podilymbus podiceps</i>	Pied-billed Grebe	G5	S1S2B/S4N		
<i>Porzana carolina</i>	Sora	G5	S1B/S2N		
<i>Rallus elegans</i>	King Rail	G4	S2B/S3N		
<i>Rallus limicola</i>	Virginia Rail	G5	S2B/S3N		
<i>Regulus satrapa</i>	Golden-crowned Kinglet	G5	S2B/S5N		
<i>Rynchops niger</i>	Black Skimmer	G5	S2B/S1N		
<i>Setophaga fusca</i> = <i>Dendroica fusca</i>	Blackburnian Warbler	G5	S2S3B		
<i>Setophaga magnolia</i> = <i>Dendroica magnolia</i>	Magnolia Warbler	G5	S2B		
<i>Setophaga virens waynei</i> = <i>Dendroica virens waynei</i>	Wayne's Black-throated Green Warbler	G5T3	S1B?		
<i>Sitta canadensis</i>	Red-breasted Nuthatch	G5	S2B/S4N		
<i>Sphyrapicus varius</i>	Yellow-bellied Sapsucker	G5	S1B/S4N		
<i>Sterna dougallii</i>	Roseate Tern	G4	SHB	LE	LE
<i>Sternula antillarum</i> = <i>Sterna antillarum</i>	Least Tern	G4	S2B		
<i>Thalasseus maximus</i> = <i>Sterna maxima</i>	Royal Tern	G5	S2B		
<i>Thalasseus sandvicensis</i> = <i>Sterna sandvicensis</i>	Sandwich Tern	G5	S1B		
<i>Thryomanes bewickii altus</i>	Appalachian Bewick's Wren	G5T2Q	SHB		LE
<i>Troglodytes hiemalis</i> = <i>Troglodytes troglodytes</i> (in part)	Winter Wren	G5	S2B/S4N		

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
MAMMALS					
<i>Corynorhinus rafinesquii macrotis</i> = <i>Plecotus rafinesquii macrotis</i>	Eastern big-eared bat	G3G4T3	S2		LE
<i>Corynorhinus townsendii virginianus</i> = <i>Plecotus townsendii virginianus</i>	Virginia big-eared bat	G3G4T2	S1	LE	LE
<i>Erethizon dorsatum</i>	North American porcupine	G5	S1		
<i>Glaucomys sabrinus coloratus</i>	Carolina northern flying squirrel	G5T2	S1	LE	LE
<i>Glaucomys sabrinus fuscus</i>	Virginia northern flying squirrel	G5T2	S1		LE
<i>Lepus americanus</i>	Snowshoe hare	G5	S1		LE
<i>Martes pennanti</i>	Fisher	G5	S1		
<i>Microtus chrotorrhinus carolinensis</i>	Southern rock vole	G4T3	S1		LE
<i>Myotis austroriparius</i>	Southeastern myotis (bat)	G3G4	S2		
<i>Myotis grisescens</i>	Gray myotis (bat)	G3	S1	LE	LE
<i>Myotis leibii</i>	Eastern small-footed myotis (bat)	G1G3	S2		
<i>Myotis lucifugus</i>	Little Brown Bat	G3	S1S3		PE
<i>Myotis septentrionalis</i>	Northern long-eared myotis (bat)	G2G3	S1S3	LT	PT
<i>Myotis sodalis</i>	Indiana bat (= social myotis)	G2	S1	LE	LE
<i>Perimyotis subflavus</i> = <i>Pipistrellus subflavus</i>	Tricolored Bat (= Eastern Pipistrelle)	G3	S1S3		PE
<i>Puma concolor cougar</i> = <i>Felis concolor cougar</i>	Eastern cougar (= mountain lion, puma)	G5THQ	SX	LE	LE
<i>Sciurus niger cinereus</i>	Delmarva fox squirrel	G5T3	S1		LE
<i>Sorex palustris punctulatus</i>	Southern water shrew	G5T3	S1S2		LE

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
INVERTEBRATES					
TURBELLARIA (FLATWORMS)					
<i>Geocentrophora cavernicola</i>	A cave planarian	G1G2	S1		
<i>Procotyla typhlops</i>	A groundwater planarian	G1G2	S1S2		
<i>Sphalloplana chandleri</i>	Chandler's planarian	G1G2	S1		
<i>Sphalloplana consimilis</i>	Powell Valley planarian	G2G3	S1		
<i>Sphalloplana holsingeri</i>	Holsinger's groundwater planarian	G1G2	SH		
<i>Sphalloplana hypogea</i>	A groundwater planarian	G1G2	S1S2		
<i>Sphalloplana subtilis</i>	Bigger's groundwater planarian	G1G2	SH		
<i>Sphalloplana virginiana</i>	Rockbridge County cave planarian	G1	S1		
GASTROPODA (SNAILS)					
<i>Anguispira jessica</i>	Mountain disc	G3G4	S1		
= <i>Anguispira alternata jessica</i>					
<i>Elimia arachnoidea</i>	Spider Elimia	G2G3	S2		LE
= <i>Goniobasis arachnoidea</i>					
<i>Fontigens bottimeri</i>	Appalachian springsnail	G2G3	S2S3		LE
<i>Fontigens morrisoni</i>	Virginia springsnail	G2	S2		LE
<i>Fontigens tartarea</i>	Organ cavesnail	G2	S1S2		
<i>Fumonelix wheatleyi clingmanicus</i>	Clingman covert	G4T2T3	S1S2		
= <i>Mesodon clingmanicus</i>					
<i>Glyphyalinia raderi</i>	Maryland glyph	G2	S1S2		
<i>Helicodiscus diadema</i>	Shaggy coil	G1	S1		LE
<i>Helicodiscus lirellus</i>	Rubble coil	G1	S1		LE
<i>Helicodiscus multidens</i>	Twilight coil	G3	S2		
<i>Helicodiscus triodus</i>	Talus coil	G2	S1S2		
<i>Holsingeria unthinksensis</i>	Thankless ghostsnail (= Unthanks Cave snail)	G2	S2		LE
<i>Io fluvialis</i>	Spiny riversnail	G2	S2		LT
<i>Mesodon andrewsae</i>	Balsam globe	G3	S1		
<i>Millerelix plicata</i>	Cumberland lipetooth	G4	S1S3		
= <i>Polygyra plicata</i>					
<i>Pallifera hemphilli</i>	Black mantleslug	G4	S1		
<i>Paravitrea blarina</i>	Shrew supercoil	G3	S1		
<i>Paravitrea dentilla</i>	Comb supercoil	G1	S1		
<i>Paravitrea hera</i>	Spirit supercoil	G1	S1		LE
<i>Paravitrea mira</i>	Funnel supercoil	G2	S2		
<i>Paravitrea septadens</i>	Brown supercoil	G1	S1		LT
<i>Paravitrea seradens</i>	Barred supercoil	G3	S1S3		
<i>Paravitrea subtilis</i>	Slender supercoil	G2	S1S2		
<i>Pleurocera gradata</i>	Bottle hornsnailed	G1G2	SH/SU		
<i>Polygyriscus virginianus</i>	Virginia coil (=Virginia fringed mountain snail)	G1	S1	LE	LE
<i>Somatogyris virginicus</i>	Panhandle pebblesnail	G2G3	S2		
<i>Stagnicola neopalustris</i>	Piedmont pondsnailed	GHQ	SH		
<i>Stenotrema altispira</i>	Highland slitmouth	G3	S1		
<i>Triodopsis picea</i>	Spruce Knob threetooth	G3	S1		
<i>Ventridens coelaxis</i>	Bidentate dome	G3	S2		

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
BIVALVIA (MUSSELS & CLAMS)					
Mussels					
<i>Alasmidonta heterodon</i>	Dwarf wedgemussel	G1G2	S1	LE	LE
<i>Alasmidonta marginata</i>	Elktoe	G4	S1S2		
<i>Alasmidonta varicosa</i>	Brook floater	G3	S1		LE
<i>Alasmidonta viridis</i> = <i>Alasmidonta minor</i>	Slippershell mussel	G4G5	S1		LE
<i>Cumberlandia monodonta</i>	Spectaclecase	G3	S1	LE	LE
<i>Cyprogenia stegaria</i> = <i>Cyprogenia irrorata</i>	Fanshell	G1Q	S1	LE	LE
<i>Dromus dromas</i>	Dromedary pearlymussel	G1	S1	LE	LE
<i>Elliptio crassidens</i>	Elephantear	G5	S1		LE
<i>Elliptio lanceolata</i>	Yellow lance	G2G3	S2S3		
<i>Elliptio roanokensis</i>	Roanoke slabshell	G3	S2		
<i>Epioblasma brevidens</i>	Cumberland combshell	G1	S1	LE	LE
<i>Epioblasma capsaeformis</i>	Oyster mussel	G1	S1	LE	LE
<i>Epioblasma florentina aureola</i> = <i>Epioblasma florentina walkeri</i> (in part)	Golden riffleshell	G1T1	S1	LE*	LE*
<i>Epioblasma torulosa gubernaculum</i>	Green-blossom pearlymussel	G2TX	SX	LE	LE
<i>Epioblasma triquetra</i>	Snuffbox	G3	S1	LE	LE
<i>Fusconaia cor</i> = <i>Fusconaia edgariana</i>	Shiny pigtoe	G1	S1	LE	LE
<i>Fusconaia cuneolus</i>	Fine-rayed pigtoe	G1	S1	LE	LE
<i>Fusconaia masoni</i> = <i>Lexingtonia subplana</i> (Virginia pigtoe)	Atlantic pigtoe	G2	S2		LT
<i>Hemistena lata</i> = <i>Lastena lata</i>	Cracking pearlymussel	G1	S1	LE	LE
<i>Lampsilis abrupta</i> = <i>Lampsilis orbiculata</i>	Pink mucket	G2	SX	LE	LE
<i>Lampsilis cariosa</i>	Yellow lampmussel	G3G4	S2		
<i>Lampsilis radiata</i>	Eastern lampmussel	G5	S2S3		
<i>Lasmigona holstonia</i>	Tennessee heelsplitter	G3	S1		LE
<i>Lasmigona subviridis</i>	Green floater	G3	S2		LT
<i>Lemiox rimosus</i> = <i>Conradilla caelata</i>	Birdwing pearlymussel	G1	S1	LE	LE
<i>Leptodea fragilis</i>	Fragile papershell	G5	S1		LT
<i>Ligumia recta</i> = <i>Ligumia recta latissima</i>	Black sandshell	G5	S2		LT
<i>Pegias fabula</i>	Little-winged pearlymussel	G1	S1	LE	LE
<i>Plethobasus cyphus</i>	Sheepnose	G3	S1	LE	LE
<i>Pleurobema collina</i>	James spinymussel	G1	S1	LE	LE
<i>Pleurobema cordatum</i>	Ohio pigtoe	G4	S1		LE
<i>Pleurobema oviforme</i> = <i>Pleurobema maculatum</i>	Tennessee clubshell	G2G3	S2S3		
<i>Pleurobema plenum</i>	Rough pigtoe	G1	SH	LE	LE
<i>Pleurobema rubrum</i> = <i>Pleurobema pyramidatum</i>	Pyramid pigtoe	G2G3	SH		LE
<i>Pleurobema barnesiana</i> = <i>Fusconaia barnesiana</i>	Tennessee pigtoe	G2G3	S2		
<i>Pleurobema dolabelloides</i> = <i>Lexingtonia dolabelloides</i>	Slabside pearlymussel	G2	S2	LE	LE
<i>Ptychobranhus subtentum</i>	Fluted Kidneyshell	G2	S2	LE	LE

*Virginia populations are listed as federally and state endangered under the name Tan Riffleshell (*Epioblasma florentina walkeri*)

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
Mussels (continued)					
<i>Quadrula cylindrica strigillata</i>	Rough rabbits foot	G3G4T2	S2	LE	LE
<i>Quadrula intermedia</i>	Cumberland monkeyface	G1	S1	LE	LE
<i>Quadrula pustulosa</i>	Pimple back	G5	S2		LT
<i>Quadrula sparsa</i>	Appalachian monkeyface	G1	S1	LE	LE
<i>Quadrula verrucosa</i> = <i>Tritogonia verrucosa</i>	Pistolgrip	G4G5	S2		LT
<i>Toxolasma lividum</i> = <i>Carunculina lividus</i> , <i>Carunculina glans</i>	Purple liliput	G3Q	SH		LE
<i>Truncilla truncata</i>	Deertoe	G5	S1		LE
<i>Villosa fabalis</i>	Rayed bean	G2	SX	LE	LE
<i>Villosa perpurpurea</i>	Purple bean	G1	S1	LE	LE
<i>Villosa trabalis</i>	Cumberland bean	G1	SX	LE	LE
ANNELIDA (SEGMENTED WORMS)					
<i>Spelaedrillus multiporus</i>	A cave lumbriculid worm	G1	S1		
<i>Stylodrilus beattiei</i>	A cave lumbriculid worm	G2G3	S1		
ARACHNIDA (SPIDERS, PSEUDOSCORPIONS & RELATIVES)					
Spiders					
<i>Anahita punctulata</i>	Southeastern wandering spider	G4	S2		
<i>Anthrobia coylei</i>	Coyle's cave spider	G2?	S1		
<i>Anthrobia monmouthia</i> = <i>Anthrobia mammouthia</i>	Mammoth Cave spider	G5	S2		
<i>Bathypantes weyeri</i>	A cave spider	G4	S1		
<i>Hypochilus thorelli</i>	Thorell's lampshade-web spider	G4	S1		
<i>Islandiana muma</i>	A cave spider	G1G2	S1		
<i>Microhexura montivaga</i>	Spruce-fir moss spider	G1	S1	LE	LE
<i>Nesticus mimus</i>	A cave spider	G2	S1		
<i>Nesticus paynei</i>	A cave spider	G3G4	S1		
Mites					
<i>Traegardhia paralleloseta</i> = <i>Foveacheles paralleloseta</i>	A cave mite	G1	S1		
Pseudoscorpions					
<i>Apochthonius coecus</i>	A cave pseudoscorpion	G1G2	S1		
<i>Apochthonius holsingeri</i>	A cave pseudoscorpion	G1G2	S1		
<i>Chitrella superba</i>	A cave pseudoscorpion	G1	S1		
<i>Chitrella</i> sp. 1	A cave pseudoscorpion	G1	S1		
<i>Kleptochthonius anophthalmus</i>	A cave pseudoscorpion	G1	S1		
<i>Kleptochthonius binoculatus</i>	A cave pseudoscorpion	G1G2	S1S2		
<i>Kleptochthonius gertschi</i>	Gertsch's cave pseudoscorpion	G1	S1		
<i>Kleptochthonius lutzii</i>	Lutz's cave pseudoscorpion	G1	S1		
<i>Kleptochthonius proximisetus</i>	A cave pseudoscorpion	G1	S1		
<i>Kleptochthonius regulus</i>	A cave pseudoscorpion	G1G2	S1		
<i>Kleptochthonius similis</i>	A cave pseudoscorpion	G1	S1		
<i>Kleptochthonius</i> sp. 1 = <i>Kleptochthonius</i> sp. B	A cave pseudoscorpion	G1	S1		
<i>Lissocreagris valentinei</i> = <i>Microcreagris valentinei</i>	Valentine's cave pseudoscorpion	G1	S1		
<i>Mundochthonius holsingeri</i>	A cave pseudoscorpion	G1	S1		

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
Scorpions					
<i>Vaejovis carolinianus</i>	Carolina scorpion	G5	S1		
CRUSTACEA (AMPHIPODS, ISOPODS & DECAPODS)					
Amphipods					
<i>Batrurur angulus</i>	Cumberland Gap cave amphipod	G1	S1		
<i>Crangonyx baculisipina</i>	Lancaster County amphipod	G1?	S1?		
<i>Crangonyx fontinalis</i>	Bland County amphipod	G1?	S1?		
<i>Crangonyx montanus</i>	A freshwater amphipod	G2	S2		
<i>Stygobromus baroodyi</i>	Rockbridge County cave amphipod	G2G3	S1S2		
<i>Stygobromus biggersi</i>	Bigger's cave amphipod	G2G4	S1S2		
<i>Stygobromus conradi</i>	Burnsville Cove cave amphipod	G2G3	S1S2		
<i>Stygobromus cumberlandus</i>	Cumberland cave amphipod	G3G4	S1S2		
<i>Stygobromus ephemerus</i>	Ephemeral cave amphipod	G1G2	S1		
<i>Stygobromus fergusonii</i>	Montgomery County cave amphipod	G2G3	S1		
<i>Stygobromus finleyi</i>	Finley's cave amphipod	G3G4	S1		
<i>Stygobromus foliatus</i>	A groundwater amphipod	G2	S2		
<i>Stygobromus hoffmani</i>	Alleghany County cave amphipod	G2	S2		
<i>Stygobromus hubbardi</i>	Hupp's Hill cave amphipod	G1	S1		
<i>Stygobromus interitus</i>	New Castle Murder Hole amphipod	G1G2	SH		
<i>Stygobromus leensis</i>	Lee County cave amphipod	G1G2	S1S2		
<i>Stygobromus mausi</i>	Round Hill cave amphipod	G1	S1		
<i>Stygobromus morrisoni</i>	Morrison's cave amphipod	G2G3	S1S2		
<i>Stygobromus mundus</i>	Bath County cave amphipod	G2G3	S1S2		
<i>Stygobromus obrutus</i>	Pittsylvania well amphipod	G1G2	SH		
<i>Stygobromus phreaticus</i>	Northern Virginia well amphipod	G1	S1		
<i>Stygobromus pizzinii</i>	Pizzini's amphipod	G3G4	S1S2		
<i>Stygobromus pseudospinosus</i>	Luray Caverns amphipod	G1	S1		
<i>Stygobromus sextarius</i>	Capital area groundwater amphipod	G1	S1		
<i>Stygobromus stegerorum</i>	Madison Cave amphipod	G1	S1		LT
<i>Stygobromus</i> sp. 7	Sherando spinosoid amphipod	G2	S2		
<i>Stygobromus</i> sp. 8	A groundwater amphipod	G2G3	S2S3		
<i>Stygobromus</i> sp. 16	Helsley's Cave amphipod	G1	S1		
<i>Stygobromus</i> sp. 17	Massanutten spring amphipod	G2	S2		
<i>Stygobromus</i> sp. 18	Big Levels spring amphipod	G1?	S1?		
<i>Stygobromus</i> sp. 23	Shenandoah Mountain spring amphipod	G1?	S1?		
Isopods					
<i>Amerigoniscus henroti</i>	Powell Valley terrestrial cave isopod	G1G2	S1S2		
<i>Antrolana lira</i>	Madison Cave isopod	G2G4	S2	LT	LT
<i>Caecidotea attenuata</i>	Dismal Swamp isopod	G1G3	S1S3		
<i>Caecidotea bowmani</i>	Natural Bridge cave isopod	G1G2	S1S2		
<i>Caecidotea cumberlandensis</i>	Cumberland Gap cave isopod	G1G2	S1		
<i>Caecidotea henroti</i>	Henrot's cave isopod	G2	S2		
<i>Caecidotea incurva</i>	Incurved cave isopod	G2G4	S2		
<i>Caecidotea mausi</i>	Maus' cave isopod	G2	S2		
<i>Caecidotea phreatica</i>	Phreatic isopod	G2G3	S1S3		
<i>Ligidium elrodii leensis</i>	Lee County terrestrial cave isopod	G4G5T1T2	S1S2		
<i>Ligidium elrodii scottensis</i>	Scott County terrestrial cave isopod	G4G5T1T2	S1S2		
<i>Lirceus culveri</i>	Rye Cove isopod	G1	S1		
<i>Lirceus usdagalun</i>	Lee County cave isopod	G2G3	S1	LE	LE
<i>Miktoniscus racovitza</i>	Racovitza's terrestrial cave isopod	G3G4	S2		

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
Decapods					
<i>Cambarus callainus</i> = <i>Cambarus veteranus</i> (in part)	Big Sandy Crayfish	G2	S1S2	PE	LE*
<i>Cambarus hatfieldi</i>	Tug Valley crayfish	G3	S1		
<i>Cambarus jezerinaci</i>	Spiny scale crayfish	G3	S2		
<i>Cambarus monongalensis</i>	Blue crawfish	G5	S1?		
<i>Macrobrachium ohione</i>	Ohio river shrimp	G4	S1		
<i>Orconectes erichsonianus</i>	Reticulate crayfish	G5	S2		
<i>Orconectes virginianus</i>	Chowanoke crayfish	G3	S2S3		
DIPLOPODA (MILLIPEDES)					
<i>Appalachioria falcifera</i> = <i>Brachoria falcifera</i>	Big Cedar Creek millipede	G1	S1		
<i>Appalachioria separanda hamata</i> = <i>Brachoria separanda hamata</i>	A millipede	G3T2	S2		
<i>Appalachioria separanda versicolor</i> = <i>Brachoria separanda versicolor</i>	A millipede	G3T2	S2		
<i>Appalachioria turneri</i> = <i>Brachoria turneri</i>	Turner's millipede	G1	S1		
<i>Boraria infesta</i>	A millipede	G4	S2		
<i>Brachoria</i> sp. 1	Powell Mountain millipede sp 1	G1?	S1?		
<i>Brachoria</i> sp. 2	Powell Mountain millipede sp 2	G1?	S1?		
<i>Brachoria cedra</i>	cedar glade mimic millipede	G2G3	S2S3		
<i>Brachoria dentata</i>	Pennington Gap mimic millipede	G2G3	S2S3		
<i>Brachoria hoffmani</i>	Hoffman's mimic millipede	G2G3	S2S3		
<i>Brachoria insolita</i>	High Knob mimic millipede	G1	S1		
<i>Brachoria laminata</i>	Harman mimic millipede	G1	S1		
<i>Brachoria mendota</i>	Mendota mimic millipede	G2G3	S2S3		
<i>Brachoria sheari</i>	Shear's mimic millipede	G1	S1		
<i>Brachoria virginia</i>	Virginia mimic millipede	G1	S1		
<i>Cherokia georgiana latassa</i>	A millipede	G4T?	S1		
<i>Cleidogona hoffmani</i>	Hoffman's cleidogonid millipede	G3	S2S3		
<i>Cleidogona lachesis</i>	A millipede	G2	S1		
<i>Cleidogona medialis</i>	Blowing Rock millipede	G3G4	S2		
<i>Conotyla aeto</i>	Aeto millipede	G1	S1		
<i>Conotyla celeno</i>	Celeno millipede	G1	S1		
<i>Conotyla venetia</i>	Venetia millipede	G2	S2		
<i>Desmonus earlei</i>	Earle's millipede	G5	S1		
<i>Dixioria brooksi</i>	Brooks millipede	G1	S1		
<i>Dixioria fowleri</i>	Fowler's millipede	G2	S2		
<i>Dixioria pela coronata</i> = <i>Dixioria coronata</i>	A millipede	G2T2	S2		
<i>Nannaria shenandoa</i>	Shenandoah Mountain xystodesmid millipede	G1	S1		
<i>Nannaria simplex</i>	A millipede	G1	S1		
<i>Nannaria</i> sp. 1	Roaring Branch Nannaria millipede	G1?	S1?		
<i>Pseudotremia armesi</i>	Arme's rough-backed millipede	G2	S2		
<i>Pseudotremia cavernarum</i>	Ellett Valley Pseudotremia millipede	G2G3	S1		LT
<i>Pseudotremia cerberus</i>	Cerberus cave millipede	G1	S1		
<i>Pseudotremia contorta</i>	Twisted-gonopod cave millipede	G1	S1		
<i>Pseudotremia culveri</i>	Culver's cave millipede	G1	S1		
<i>Pseudotremia deprehendor</i>	A cave millipede	G2G3	S1S3		
<i>Pseudotremia fergusonii</i>	Ferguson's cave millipede	G1	S1		

*Listed as state endangered under the name *Cambarus veteranus*.

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
Millipedes (continued)					
<i>Pseudotremia inexpectata</i>	Devault's cave millipede	G1	S1		
<i>Pseudotremia fremens</i>	Roaring Branch rough-backed millipede	G1?	S1?		
<i>Pseudotremia hubbardi</i>	Hubbard's cave millipede	G1G2	S1S2		
<i>Pseudotremia jaculohamatum</i>	Harpoon cave millipede	G1	S1		
<i>Pseudotremia johnholsingeri</i>	Holsinger's cave millipede	G1	S1		
<i>Pseudotremia loomisi</i>	Lommis' rough-backed millipede	G1	S1		
<i>Pseudotremia momus</i>	A millipede	G2	S2		
<i>Pseudotremia orndorffi</i>	Orndorff's cave millipede	G2	S2		
<i>Pseudotremia peponocranium</i>	Pumpkin-headed cave millipede	G1	S1		
<i>Pseudotremia piscator</i>	Fisher Cave millipede	G1	S1		
<i>Pseudotremia princeps</i>	South Branch Valley cave millipede	G1	S1		
<i>Pseudotremia ryensis</i>	Rye Cove cave millipede	G1	S1		
<i>Pseudotremia salifodina</i>	Jones' Saltpetre Cave millipede	G1	S1		
<i>Pseudotremia sublevis</i>	A millipede	G2G3	S2S3		
<i>Pseudotremia tuberculata</i>	A millipede	G2G3	S2		
<i>Pseudotremia valga</i>	A millipede	G1G2	S1S2		
<i>Rhysodesmus restans</i>	Relictual Appalachian millipede	G1G2	S1		
<i>Sigmoria whiteheadi</i>	Laurel Creek xystodesmid millipede	G1	S1		LT
<i>Trichopetalum lunatum</i>	A millipede	G5	S2		
<i>Zygonopus weyeri</i>	Grand Caverns blind cave millipede	G3G4	S2		
= <i>Trichopetalum weyeri</i>					
<i>Zygonopus whitei</i>	Luray Caverns blind cave millipede	G3G4	S2		
= <i>Trichopetalum whitei</i>					
CHILOPODA (CENTIPEDES)					
<i>Escaryus cryptorobius</i>	Montane centipede	G2	S2		
<i>Escaryus orestes</i>	Whitetop Mountain centipede	G1G2	S1S2		
<i>Nampabius turbator</i>	A cave centipede	G1G2	S1		
INSECTS					
COLLEMBOLA (SPRINGTAILS)					
<i>Oncopodura hubbardi</i>	A cave springtail	G1G2	S1S2		
<i>Paleonura petebellingeri</i>	A cave springtail	G1	S1		
<i>Pseudosinella bona</i>	A cave springtail	G2	S2		
<i>Pseudosinella erehwon</i>	A cave springtail	G2	S2		
<i>Pseudosinella extra</i>	A cave springtail	G1G2	S1		
<i>Pseudosinella flatua</i>	A cave springtail	G1G2	S1S2		
<i>Pseudosinella gisini virginia</i>	A cave springtail	G3G4T2	S2		
<i>Pseudosinella hirsuta</i>	A cave springtail	G5	S1		
<i>Pseudosinella testa</i>	Shelled Cave springtail	G2G3	S1		
<i>Pseudosinella vespera</i>	A cave springtail	G2	S1S2		
<i>Pygmarrhopalites caedus</i>	A cave springtail	G1G2	S1S2		
<i>Pygmarrhopalites commorus</i>	A cave springtail	G2G3	S2S3		
<i>Pygmarrhopalites lacuna</i>	A cave springtail	G1G2	S1S2		
<i>Pygmarrhopalites obtusus</i>	A cave springtail	G1	S1		
<i>Pygmarrhopalites sacer</i>	A cave springtail	G2	S2		
<i>Pygmarrhopalites sextus</i>	A cave springtail	G1	S1		
<i>Pygmarrhopalites silvus</i>	A cave springtail	G1G2	S1S2		
<i>Speleonura kenchristianseni</i>	A cave springtail	G1	S1		
<i>Typhlogastrura valentini</i>	A cave springtail	G1	S1		

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
DIPLURA (DIPLURANS)					
<i>Litocampa fieldingae</i>	Fielding's cave dipluran	G2G3	S1S3		
<i>Litocampa pucketti</i>	Puckett's cave dipluran	G1G2	S1S2		
<i>Litocampa</i> sp. 1	A cave dipluran (Salamander Cave)	G1	S1		
<i>Litocampa</i> sp. 2	A cave dipluran (Ward Cove)	G1	S1		
<i>Litocampa</i> sp. 3	A cave dipluran (Pulaski/Wythe)	G2	S2		
<i>Litocampa</i> sp. 4	A cave dipluran (Rye Cove)	G2	S1S2		
EPHEMEROPTERA (MAYFLIES)					
<i>Baetisca rubescens</i>	A mayfly	G3G4	S1		
<i>Barbaetis benfieldi</i>	Benfield's bearded small minnow mayfly	G2G4	S1		
<i>Habrophlebiodes celeteria</i>	A mayfly	G2G4	S2		
<i>Homoeoneuria cahabensis</i>	Cahaba sand-filtering mayfly	G2G3	SU		
<i>Isonychia hoffmani</i>	Hoffman's <i>Isonychia</i> mayfly	G1G3	S1		
<i>Isonychia serrata</i>	A mayfly	G4	S1S3		
<i>Isuaeon rubrolaterale</i>	A mayfly	G2	SU		
= <i>Heterocloeon rubrolaterale</i> ,					
= <i>Plauditus rubrolateralis</i>					
<i>Leptophlebia johnsoni</i>	Johnson's pronggill mayfly	G4	S1		
<i>Neophemera compressa</i>	A mayfly	G1S3	S1?		
<i>Pseudiron centralis</i>	White sand-river mayfly	G5	S1		
<i>Siphonoplecton costalense</i>	Spieth's great speckled olive mayfly	G2G4	SH		
<i>Tsalia bernerii</i>	Berner's <i>Ephemerella</i> mayfly	G4	S2		
= <i>Ephemerella bernerii</i>					
ODONATA (DAMSELFLIES & DRAGONFLIES)					
Damselflies					
<i>Calopteryx aequabilis</i>	River jewelwing	G5	SH		
<i>Calopteryx amata</i>	Superb jewelwing	G4	S1		
<i>Enallagma annexum</i>	Northern bluet	G5	S1		
= <i>Enallagma cyathigerum</i> (in part)					
<i>Enallagma carunculatum</i>	Tule bluet	G5	SH		
<i>Enallagma ebrium</i>	Marsh bluet	G5	S1		
<i>Enallagma pallidum</i>	Pale bluet	G4	S1S2		
<i>Lestes disjunctus</i>	Northern spreadwing	G5	S2		
<i>Nehalennia gracilis</i>	Sphagnum sprite	G5	S2		
<i>Nehalennia irene</i>	Sedge sprite	G5	S1S2		
Dragonflies					
<i>Aeshna canadensis</i>	Canada darner	G5	S1		
<i>Aeshna constricta</i>	Lance-tipped darner	G5	SH		
<i>Aeshna tuberculifera</i>	Black-tipped darner	G4	S2S3		
<i>Aeshna verticalis</i>	Green-striped darner	G5	S1		
<i>Aphylla williamsoni</i>	Two-striped forceptail	G5	S2		
<i>Arigomphus furcifer</i>	Lilypad clubtail	G5	SH		
<i>Celithemis martha</i>	Martha's pennant	G4	S2		
<i>Celithemis ornata</i>	Faded pennant	G5	SH		
<i>Cordulegaster diastatops</i>	Delta-spotted spiketail	G5	S1		
<i>Coryphaeschna ingens</i>	Regal darner	G5	S1		

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
Dragonflies (continued)					
<i>Epithea canis</i> = <i>Tetragoneuria canis</i>	Beaverpond baskettail	G5	S1		
<i>Epithea semiaquea</i> = <i>Tetragoneuria semiaquea</i>	Mantled baskettail	G5	S1		
<i>Gomphus adelphus</i> = <i>Gomphus brevis</i>	Moustached clubtail	G4	S1		
<i>Gomphus apomyius</i>	Banner clubtail	G3G4	SH		
<i>Gomphus borealis</i>	Beaverpond clubtail	G4	SH		
<i>Gomphus consanguis</i>	Cherokee clubtail	G3	S2		
<i>Gomphus descriptus</i>	Harpoon clubtail	G4	S1		
<i>Gomphus fraternus</i>	Midland clubtail	G5	S2		
<i>Gomphus parvidens</i>	Piedmont clubtail	G4	S1		
<i>Gomphus septima</i>	Septima's clubtail	G2	S1		
<i>Gomphus ventricosus</i>	Skillet clubtail	G3	S1		
<i>Gomphus viridifrons</i>	Green-faced clubtail	G3G4	S2		
<i>Ladona exusta</i> = <i>Libellula exusta</i>	White corporal skimmer	G4	SH		
<i>Ladona julia</i> = <i>Libellula julia</i>	Chalk-fronted corporal skimmer	G5	S2S3		
<i>Lanthus parvulus</i>	Northern pygmy clubtail	G4	S2		
<i>Leucorrhinia frigida</i>	Frosted whiteface	G5	SH		
<i>Leucorrhinia hudsonica</i>	Hudsonian whiteface	G5	S1		
<i>Leucorrhinia proxima</i>	Red-waisted whiteface	G5	SH		
<i>Macrodiplax balteata</i>	Marl pennant	G5	S1		
<i>Macromia alleghaniensis</i>	Allegheny river cruiser	G4	S2		
<i>Macromia margarita</i>	Mountain river cruiser	G3	SH		
<i>Nannothemis bella</i>	Elfin skimmer	G4	S1		
<i>Neurocordulia virginienensis</i>	Cinnamon shadowdragon	G4	S2		
<i>Neurocordulia yamaskanensis</i>	Stygian shadowdragon	G5	S2		
<i>Ophiogomphus aspersus</i>	Brook snaketail	G4	S2		
<i>Ophiogomphus carolus</i>	Riffle snaketail	G5	S1		
<i>Ophiogomphus howei</i>	Pygmy snaketail	G3	S1S2		
<i>Ophiogomphus incurvatus alleghaniensis</i> = <i>Ophiogomphus alleghaniensis</i>	Allegheny snaketail	G3T2T3	S1		
<i>Ophiogomphus incurvatus incurvatus</i>	Appalachian snaketail	G3T2T3	S2		
<i>Ophiogomphus mainensis</i>	Maine snaketail	G4	S1		
<i>Ophiogomphus susbehcha</i>	St. Croix snaketail	G2	S1S2		
<i>Rhionaeschna mutata</i> = <i>Aeshna mutata</i>	Spatterdock darner	G4	S2		
<i>Somatochlora elongata</i>	Ski-tipped emerald	G5	S1S2		
<i>Somatochlora filosa</i>	Fine-lined emerald	G5	S2		
<i>Somatochlora georgiana</i>	Coppery emerald	G3G4	SH		
<i>Somatochlora provocans</i>	Treetop emerald	G4	S2		
<i>Somatochlora williamsoni</i>	Williamson's emerald	G5	SH		
<i>Stylogomphus sigmastylus</i>	Interior least clubtail	G5	S1		
<i>Stylurus amnicola</i>	Riverine clubtail	G4	S1		
<i>Stylurus laurae</i>	Laura's clubtail	G4	S2		
<i>Stylurus notatus</i>	Elusive clubtail	G3	SH		
<i>Stylurus scudderi</i>	Zebra clubtail	G4	S1S2		
<i>Sympetrum obtrusum</i>	White-faced meadowhawk	G5	S2		

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
PLECOPTERA (STONEFLIES)					
<i>Acroneuria flinti</i>	Manassas stonefly	GH	SH		
<i>Acroneuria kirchneri</i>	Strawberry stonefly	G3G4	S1S3		
<i>Acroneuria kosztarabi</i>	Virginia stonefly	G1G2	S1S2		
<i>Acroneuria yuchi</i>	Ornate stonefly	G1G3	S1S3		
<i>Allocapnia fumosa</i>	Smokies snowfly	G2	S1S2		
<i>Allocapnia illinoensis</i>	Illinois snowfly	G3	S1S3		
<i>Allocapnia simmonsii</i>	Spatulate snowfly	G3	S1S2		
<i>Allocapnia stannardi</i>	Blue Ridge snowfly	G3	S1S3		
<i>Alloperla stipitata</i>	Blue Ridge sallfly	G2G3	S1S3		
<i>Cultus decisus isolatus</i>	Southern springfly	G4T2	S1S2		
<i>Diploperla kanawholensis</i>	Kanawhole springfly	G3	S1S3		
<i>Diploperla morgani</i>	Virginia springfly	G3	S2		
<i>Isoperla major</i>	Big stripetail stonefly	G1	S1		
<i>Leuctra mitchellensis</i>	Mitchell needlefly	G3	S1S2		
<i>Leuctra monticola</i>	Montane needlefly	G1Q	S1		
<i>Megaleuctra flinti</i>	Shenandoah needlefly	G2	S2		
<i>Megaleuctra williamsae</i>	Smokies needlefly	G2	S1S2		
<i>Perlesta cranshawii</i>	A stonefly	G1	S1?		
<i>Perlesta durfeii</i>	A stonefly	G1G3	S1S3		
<i>Perlesta frisoni</i>	Blue Ridge stonefly	G3	S1S2		
<i>Prostoia hallasi</i>	Swamp forestfly	G3	S1S3		
<i>Remenus kirchneri</i>	Blue Ridge springfly	G2	S2		
<i>Strophopteryx limata</i>	Newfound willowfly	G3	S1S2		
<i>Sweltsa holstonensis</i>	Holston sallfly	G1	S1		
<i>Sweltsa palearata</i>	Shenandoah sallfly	G2G3	S1S3		
<i>Sweltsa voshelli</i>	Virginia sallfly	G3	S2		
<i>Taeniopteryx nelsoni</i>	Cryptic willowfly	G1	S1		
<i>Tallaperla lobata</i>	Lobed roachfly	G2	S1S2		
<i>Yugus arinus</i>	Highlands springfly	G3	S1S3		
<i>Yugus kondratieffi</i>	A stonefly	G2G3	S1S3		
ORTHOPTERA (GRASSHOPPERS, KATYDIDS, CRICKETS & RELATIVES)					
<i>Appalachia hebardii</i>	Appalachian grasshopper	GH	SH		
HEMIPTERA (TRUE BUGS, CICADAS, LEAFHOPPERS & RELATIVES)					
<i>Bothynotus johnstoni</i>	A mirid bug	G3	S1S3		
<i>Chelinidea vittiger</i>	Opuntia squash bug	G3G5	S1		
<i>Chlorochroa dismala</i>	Dismal Swamp green stink bug	G1G3	S1S3		
<i>Ctenotrachelus shermani</i>	Combneck assassin bug	G3	S1S3		
<i>Gnathobleda litigiosa</i>	An assassin bug	G5	S1		
<i>Limnopus dissortis</i>	A water strider	G5	S1		
<i>Melanaethus cavicollis</i>	A burrower bug	G4	S1S3		
<i>Phytocoris hoffmani</i>	Spruce plant bug	GNR	S1S3		
<i>Ploiaria carolina</i>	Carolina thread-legged bug	G4?	S1S3		
<i>Ploiaria hirticornis</i>	An assassin bug	G3?	S1S3		
<i>Pnirontis brimleyi</i>	Brimley's assassin bug	G2	S1S3		
<i>Puto kosztarabi</i>	Buffalo Mountain mealybug	G1	S1		LE
<i>Pycnoderiella virginiana</i>	Seashore plant bug	GU	SU		
<i>Ramphocorixa acuminata</i>	Acuminate water boatman	G4	S1		
<i>Sigara depressa</i>	Virginia Piedmont water boatman	G1G2	S1S2		LE
<i>Stenocoris tipuloides</i>	Neotropical rice bug	G5	S1S3		

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
COLEOPTERA (BEETLES)					
<i>Arianops jeanneli</i>	A cave pselaphid beetle	G1	S1		
<i>Atheta annexa</i>	A rove beetle	G4	S2		
<i>Atheta troglaphila</i>	A rove beetle	G2	S1		
<i>Cicindela abdominalis</i>	Eastern pine barrens tiger beetle	G3G4	S1		
<i>Cicindela ancocisconensis</i>	Appalachian tiger beetle	G3	S2		
<i>Cicindela dorsalis dorsalis</i> = <i>Habroschelomorpha dorsalis dorsalis</i>	Northeastern beach tiger beetle	G3G4T2	S2	LT	LT
<i>Cicindela formosa generosa</i>	Big sand tiger beetle	G5T5	SH		
<i>Cicindela gratiosa</i> = <i>Ellipsoptera gratiosa</i>	Whitish tiger beetle	G3G4	S1		
<i>Cicindela lepida</i> = <i>Ellipsoptera lepida</i>	Ghost tiger beetle	G3G4	S1		
<i>Cicindela limbalis</i>	Common claybank tiger beetle	G5	S1		
<i>Cicindela patruela</i>	Northern barrens tiger beetle	G3	S2		
<i>Cicindela trifasciata</i>	S-banded tiger beetle	G5	S1		
<i>Copris howdeni</i>	Howden's Copris scarab beetle	G3?	S1		
<i>Dryobius sexnotatus</i>	Six-banded longhorn beetle	GNR	S2?		
<i>Hemipeplus microphthalmus</i>	A flat bark beetle	G4?	S1		
<i>Hydraena maurenae</i>	Maureen's shale stream beetle	G2?	S2?		
<i>Lordithon niger</i>	Black Lordithon rove beetle	GU	SH		
<i>Nicrophorus americanus</i>	American burying beetle	G2G3	SH	LE	
<i>Nicrophorus carolinus</i>	Carolina burying beetle	G4?	S1S3		
<i>Pseudanophthalmus avernus</i>	Avernus cave beetle	G1	S1		
<i>Pseudanophthalmus cordicollis</i>	Little Kennedy Cave beetle	G1	S1		
<i>Pseudanophthalmus deceptivus</i>	Deceptive cave beetle	G1	S1		
<i>Pseudanophthalmus delicatus</i>	Delicate cave beetle	G3G4	S2		
<i>Pseudanophthalmus egberti</i>	New River Valley cave beetle	G1G2	S1		
<i>Pseudanophthalmus gracilis</i>	Clover Hollow cave beetle	G1G2	S1S2		
<i>Pseudanophthalmus hirsutus</i>	Cumberland Gap cave beetle	G1G2	S1		
<i>Pseudanophthalmus hoffmani</i>	Hoffman's cave beetle	G2G3	S1S2		
<i>Pseudanophthalmus holsingeri</i>	Holsinger's cave beetle	G1	S1		LE
<i>Pseudanophthalmus hortulanus</i>	Burkes Garden cave beetle	G1	S1		
<i>Pseudanophthalmus hubbardi</i>	Hubbard's cave beetle	G1	S1		
<i>Pseudanophthalmus hubrichti</i>	Hubricht's cave beetle	G1	S1		
<i>Pseudanophthalmus intersectus</i>	Crossroads Cave beetle	G1G2	S1		
<i>Pseudanophthalmus limicola</i>	Maddens Cave beetle	G1G2	S1		
<i>Pseudanophthalmus longiceps</i>	Long-headed cave beetle	G1G2	S1		
<i>Pseudanophthalmus nelsoni</i>	Nelson's cave beetle	G1G2	S1		
<i>Pseudanophthalmus parvicollis</i>	Hupp's Hill cave beetle	G1	S1		
<i>Pseudanophthalmus petrunkevitchi</i>	Petrunkevitch's cave beetle	G1G2	S1		
<i>Pseudanophthalmus pontis</i>	Natural Bridge cave beetle	G1	S1		
<i>Pseudanophthalmus potomaca</i>	South Branch Valley cave beetle	G3G4	S2		
<i>Pseudanophthalmus praetermissus</i>	Overlooked cave beetle	G1	S1		
<i>Pseudanophthalmus punctatus</i>	Spotted cave beetle	G2G3	S1		
<i>Pseudanophthalmus pusio</i>	Ellett Valley cave beetle	G2G3	S1S2		
<i>Pseudanophthalmus quadratus</i>	Straley's Cave beetle	G1	S1		
<i>Pseudanophthalmus rotundatus</i>	Rotund cave beetle	G2	S1		
<i>Pseudanophthalmus sanctipauli</i>	Saint Paul cave beetle	G1G2	S1		
<i>Pseudanophthalmus seclusus</i>	Rye Cove cave beetle	G2G3	S2		
<i>Pseudanophthalmus sericus</i>	Silken cave beetle	G1	S1		
<i>Pseudanophthalmus thomasi</i>	Thomas' cave beetle	G1G2	S1		LE
<i>Pseudanophthalmus vicarius</i>	Vicariant cave beetle	G2G3	S1S2		
<i>Pseudanophthalmus virginicus</i>	Maiden Spring cave beetle	G1	SH		

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
Beetles (continued)					
<i>Pseudanophthalmus</i> sp. 4	Greears cave beetle	G1	S1		
<i>Pseudanophthalmus</i> sp. 5	Rhea Valley cave beetle	G1	S1		
<i>Pseudanophthalmus</i> sp. 6	Wytheville cave beetle	G1	S1		
<i>Pseudanophthalmus</i> sp. 7	Dublin cave beetle	G1	S1		
<i>Pseudanophthalmus</i> sp. 8	Burnsville Cove cave beetle	G1	S1		
<i>Pseudanophthalmus</i> sp. 9	Banner Cave beetle	G1	S1		
<i>Pseudanophthalmus</i> sp. 10	Indian Cave beetle	G1	S1		
<i>Pseudanophthalmus</i> sp. 11	Showalters Cave beetle	G1	S1		
<i>Pseudanophthalmus</i> sp. 12	Catawba Cave beetle	G1	S1		
<i>Pseudanophthalmus</i> sp. 13	McMullens Cave beetle	G1	S1		
<i>Pseudanophthalmus</i> sp. 14	Karl's Pit cave beetle	G1	S1		
<i>Pseudanophthalmus</i> sp. 42	Elk Garden cave beetle	G1	S1		
<i>Pseudanophthalmus</i> sp. 43	Rosedale cave beetle	G1	S1		
<i>Sphaeroderus schaumii</i> = <i>Sphaeroderus nitidicollis schaumii</i>	Schaum's false snail-eating beetle	G4	S2		
<i>Stenelmis gammonii</i>	Gammon's riffle beetle	G1G3	S1		
MECOPTERA (SCORPIONFLIES)					
<i>Brachyanorpa jeffersoni</i>	Jefferson's short-nosed scorpionfly	G2	S1S2		
TRICHOPTERA (CADDISFLIES)					
<i>Agraylea costello</i>	A microcaddisfly	G3	S1S2		
<i>Agraylea multipunctata</i>	A microcaddisfly	G5	SH		
<i>Anabolia apora</i>	A limnephilid caddisfly	G1G3	S1S3		
<i>Arctopsyche irrorata</i>	A hydropsychid caddisfly	G4	S1		
<i>Brachycentrus incanus</i>	A brachycentrid caddisfly	G5	SH		
<i>Ceraclea ruthae</i>	A leptocerid caddisfly	G4	S1		
<i>Ceratopsyche etnieri</i>	Buffalo Springs caddisfly	G2	S1S2		
<i>Ceratopsyche macleodi</i>	A hydropsychid caddisfly	G3G4	S1S2		
<i>Cernotina calcea</i>	A polycentropodid caddisfly	G5	S1		
<i>Cernotina pallida</i>	A polycentropodid caddisfly	G3G4	SH		
<i>Cernotina truncona</i>	A polycentropodid caddisfly	G4	S1		
<i>Cheumatopsyche speciosa</i>	A hydropsychid caddisfly	G5	SH		
<i>Cheumatopsyche etrona</i>	A hydropsychid caddisfly	G4G5	S1		
<i>Cheumatopsyche virginica</i>	A hydropsychid caddisfly	G5	S1		
<i>Glossosoma lividum</i>	A glossosomatid caddisfly	G5	S1S2		
<i>Goerita semata</i>	A caddisfly	G3	S1		
<i>Hydropsyche bassi</i>	A hydropsychid caddisfly	G2	S2		
<i>Hydroptila anisoforicata</i>	A microcaddisfly	G1G2	SU		
<i>Hydroptila coweetensis</i>	A microcaddisfly	G1G2	SU		
<i>Lepidostoma mitchelli</i>	A lepidostomatid caddisfly	G3	S1		
<i>Lepidostoma modestum</i>	A lepidostomatid caddisfly	G3G4	S2		
<i>Nemotaulius hostilis</i>	A limnephilid caddisfly	G5	S1		
<i>Neophylax acutus</i>	A uenoid caddisfly	G2G3	S1S3		
<i>Neophylax atlanta</i>	A uenoid caddisfly	G2G4	SH		
<i>Neophylax etnieri</i>	A uenoid caddisfly	G3	S1S3		
<i>Neophylax toshioi</i>	A uenoid caddisfly	G1G2	S1S2		
<i>Oligostomis pardalis</i>	A phryganeid caddisfly	G5	S1S2		
<i>Polycentropus rickerti</i>	A polycentropodid caddisfly	G3G4	SH		
<i>Potamyia flava</i>	A hydropsychid caddisfly	G5	SH		
<i>Psilotreta rossi</i>	An odontocerid caddisfly	G3	S2		

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
Caddisflies (continued)					
<i>Rhyacophila appalachia</i>	Appalachian rhyacophilid caddisfly	G3	S2		
<i>Rhyacophila kondratieffi</i>	A rhyacophilid caddisfly	G2G3	S2S3		
<i>Rhyacophila mainensis</i>	A rhyacophilid caddisfly	G5	S1S2		
<i>Rhyacophila mycta</i>	A rhyacophilid caddisfly	G3	S1S2		
<i>Rhyacophila teddyi</i>	A rhyacophilid caddisfly	G2G3	S2		
<i>Rhyacophila simmonsii</i>	A rhyacophilid caddisfly	G1G3	S1S3		
<i>Rhyacophila tricornuta</i>	A rhyacophilid caddisfly	G1G3	S1S3		
<i>Wormaldia mohri</i>	A philopotamid caddisfly	G2G3	S1		
<i>Wormaldia thyria</i>	A philopotamid caddisfly	G3	S2		

LEPIDOPTERA (BUTTERFLIES, SKIPPERS & MOTHS)

Butterflies

<i>Anaea andria</i>	Goatweed leafwing	G4G5	S1		
<i>Boloria selene</i>	Silver-bordered fritillary	G5	S2		
<i>Calephelis virginienensis</i>	Little metalmark	G4	SH		
<i>Callophrys hesseli</i> = <i>Mitoura hesseli</i>	Hessel's hairstreak	G3G4	S1		
<i>Callophrys irus</i> = <i>Incisalia irus</i> , <i>Deciduphagus irus</i>	Frosted elfin	G3	S2?		
<i>Callophrys polios</i> = <i>Incisalia polios</i> , <i>Deciduphagus polios</i>	Hoary elfin	G5	S1S3		
<i>Chlosyne harrisii</i>	Harris's checkerspot	G4	S1		
<i>Colias interior</i>	Pink-edged sulphur	G5	S1S2		
<i>Erora laeta</i>	Early hairstreak	GU	S2		
<i>Euchloe olympia</i>	Olympia marble	G4G5	S2		
<i>Lycaena hyllus</i>	Bronze copper	G5	S1		
<i>Neonympha helicta</i> = <i>Neonympha areolatus septentrionalis</i>	Helicta satyr	G3G4	S2		
<i>Neonympha mitchellii</i>	Mitchell's satyr	G2	S1	LE	LE
<i>Phyciodes batesii batesii</i>	Tawny crescent	G4T1	SX		
<i>Phyciodes coccyta</i> = <i>Phyciodes pascoensis</i> , <i>Phyciodes selenis</i>	Northern crescent	G5	S1S3		
<i>Polygonia faunus smythi</i>	Smyth's green comma	G5T3	S1S3		
<i>Satyrium kingi</i>	King's hairstreak	G3G4	S2		
<i>Speyeria atlantis</i>	Atlantis fritillary	G5	S2		
<i>Speyeria idalia</i>	Regal fritillary	G3	S1		

Skippers

<i>Amblyscirtes alternata</i>	Dusky roadside skipper	G2G3	SH		
<i>Atrytone arogos arogos</i>	Arogos skipper	G3T1T2	SH		
<i>Erynnis lucilius</i>	Columbine duskywing	G4	S1S3		
<i>Erynnis martialis</i>	Mottled duskywing	G3	S1S3		
<i>Erynnis persius persius</i>	Persius duskywing	G5T1T3	S1		
<i>Euphyes bimacula</i>	Two-spotted skipper	G4	S2		
<i>Euphyes conspicua</i>	Black dash	G4	SH		
<i>Euphyes dukesii</i>	Dukes' skipper	G3	S2		
<i>Euphyes pilatka</i>	Palatka skipper (= sawgrass skipper)	G3G4	S1		
<i>Hesperia attalus slossonae</i>	Seminole skipper (= dotted skipper)	G3G4T3	SH		
<i>Megathymus yuccae</i>	Yucca giant skipper	G5	SH		
<i>Problema bulenta</i>	Rare skipper	G2G3	S1S2		
<i>Pyrgus centaureae wyandot</i> = <i>Pyrgus wyandot</i>	Appalachian grizzled skipper	G5T1T2	S1		LT

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
Moths					
<i>Acherdoa ferraria</i>	Chocolate moth	G5	S2		
<i>Acrapex relict</i>	Cane-boring moth	G4	S2S3		
<i>Acronicta albarufa</i>	Barrens dagger moth	G3G4	S1S3		
<i>Acronicta brumosa</i>	A dagger moth	G4?	S1S2		
<i>Acronicta dolli</i> = <i>Merolonche dolli</i>	Doll's dagger moth	G3G4	S1S3		
<i>Amolita roseola</i>	Roseate grass moth	G5	S1		
<i>Anaplectoides brunneomedia</i>	Brown-lined dart moth	G4	S2		
<i>Apamea smythi</i>	Smyth's Apamea moth	GH	SH		
<i>Aplectoides condita</i>	A noctuid moth	G4	S1S3		
<i>Apodrepanulatrix liberaria</i>	New Jersey tea inchworm moth	G3	S2		
<i>Arctia caja</i>	Great Tiger Moth	G5	S1		
<i>Argillophora furcilla</i>	A cane moth	G3G4	S1S3		
<i>Argyrostromis deleta</i>	A noctuid moth	G4G5	S1S3		
<i>Argyrostromis sylvanum</i>	Woodland chocolate moth	G4	S1S3		
<i>Brachionycha borealis</i>	Boreal fan moth	G4	S1S3		
<i>Callosamia securifera</i>	Sweetbay silkmoth	G4	S1S2		
<i>Catocala consors</i>	Consort underwing	G4	SH		
<i>Catocala dulcicola</i>	Sweet underwing	G3	S1S3		
<i>Catocala herodias gerhardi</i>	Pine barrens underwing	G3T3	S2S3		
<i>Catocala marmorata</i>	Marbled underwing	G3G4	S2		
<i>Catocala messalina</i>	Messalina underwing	G4?	SH		
<i>Catocala pretiosa pretiosa</i>	Precious underwing	G4T2	SH		
<i>Catocala relict</i>	White underwing	G5	S2		
<i>Catocala ulalume</i>	Ulalume underwing	G4	S1S3		
<i>Cerma cora</i>	Owl-eyed Bird Dropping Moth	G3G4	S1S3		
<i>Coptotriche perplexa</i> = <i>Tischeria perplexa</i>	Chestnut leaf-mining moth	GHQ	SH		
<i>Crambidia cephalica</i>	Yellow-headed lichen moth	G5	S1S2		
<i>Ctenucha virginica</i>	Virginia Ctenucha moth	G5	S2		
<i>Cycnia inopinatus</i>	Unexpected Cycnia moth	G4	S1S3		
<i>Cymatophora approximaria</i>	Giant gray moth	G4G5	S1S3		
<i>Dargida rubripennis</i> = <i>Faronta rubripennis</i>	Pink-streak moth	G3G4	S2		
<i>Dichagyris grotei</i> = <i>Loxagrotis apicalis</i> , <i>Richia grotei</i>	A noctuid moth	G4	S1S3		
<i>Drasteria graphica</i>	Graphic moth	G4	S1S3		
<i>Eilema bicolor</i>	Bicolored moth	G5	S1		
<i>Erastris coloraria</i>	Broad-lined Erastris moth	G3G4	S2?		
<i>Euchlaena milnei</i>	Milne's Euchlaena moth	G2G4	S2		
<i>Eulithis propulsata</i>	Currant Eulithis moth	GNR	S1S3		
<i>Euxoa fumalis</i>	A dart moth	GNR	S1S3		
<i>Euxoa immixta</i>	Mixed dart moth	G4	S1S3		
<i>Exyra ridingsii</i>	Green pitcher plant moth	G2G4	SH		
<i>Franclemontia interrogans</i>	A cane moth	G3G4	S1S3		
<i>Gondysia telma</i> = <i>Neadysgonia telma</i>	Telma darkwing moth	GNR	S1S2		
<i>Graphiphora augur</i>	Double Dart Moth	G5	S1		
<i>Hadena ectypa</i>	Catchfly moth	G3G4	S2		
<i>Heterocampa astarte</i>	A prominent moth	G4G5	S1S2		
<i>Hyppa contrasta</i>	Summer Hyppa moth	G3G4	S1S3		
<i>Idaea taturata</i>	A geometrid moth	G4	S1S2		
<i>Leucania calidior</i>	A cane moth	G2G4	S2		

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
Moths (continued)					
<i>Lithophane adipel</i> = <i>Lithophane lepida adipel</i>	A pinion moth	G4	S1S3		
<i>Lithophane georgii</i>	Large grey pinion moth	G5	S1S2		
<i>Lithophane lemmeri</i>	Lemmer's pinion moth	G3G4	S1S3		
<i>Loscopia roblei</i>	A cane moth	G3G4	S1S2		
<i>Lytrosis permagnaria</i>	A geometrid moth	G3G4	S2		
<i>Macaria distribuaria</i> = <i>Semiothisa distribuaria</i>	A geometrid moth	G4	S1S2		
<i>Meropleon cosmion</i>	A noctuid moth	G4	S2S3		
<i>Meropleon titan</i>	A noctuid moth	G2G4	S1S3		
<i>Metria amella</i>	A noctuid moth	G5	S1S2		
<i>Nemoria tuscarora</i>	Tuscarora emerald	GU	S1S3		
<i>Odontosia elegans</i>	Elegant prominent	G5	S1S3		
<i>Oligia bridghamii</i>	Bridgham's brocade moth	G4	S1		
<i>Oxycilla mitographa</i>	A noctuid moth	G4	SH		
<i>Paectes abrostolella</i>	A noctuid moth	G4	S1S2		
<i>Papaipema araliae</i>	Aralia shoot borer moth	G3G4	S2S3		
<i>Papaipema astuta</i>	Yellow stoneroot borer moth	G2G4	S1S3		
<i>Papaipema duovata</i>	Seaside goldenrod borer moth	G4	S2S3		
<i>Papaipema duplicata</i>	Dark stoneroot borer moth	G2G4	S2		
<i>Papaipema necopina</i>	Sunflower borer moth	G4?	S1S3		
<i>Papaipema stenocelis</i>	Chain fern borer moth	G4	S1S3		
<i>Papaipema</i> sp. 3	Southeastern cane borer moth	G4	S2S3		
<i>Platypolia anceps</i>	A noctuid moth	GNR	S1S2		
<i>Polia purpurissata</i>	Purple arches moth	GNR	SH		
<i>Properigea costa</i>	A noctuid moth	G4	S2		
<i>Protodeltote</i> sp. 1	A noctuid moth	G1G3	S1S2		
<i>Psectrotarsia hebardii</i> = <i>Erythroecia hebardii</i>	Hebard's noctuid moth	GU	SH		
<i>Ptichodis bistrigata</i>	Southern Ptichodis moth	G3	S1S3		
<i>Pygarctia abdominalis</i>	Yellow-edged Pygarctia moth	G3	S1S2		
<i>Pyrria aurantiago</i> = <i>Rhodoecia aurantiago</i>	Aureolaria seed borer moth	G3G4	S1S3		
<i>Rheumaptera hastata</i>	Spear-marked black moth	G5	S2		
<i>Schinia siren</i> = <i>Schinia inclara</i>	A flower moth	GNR	S1S2		
<i>Schizura apicalis</i>	Plain Schizura moth	G3G4	S1S3		
<i>Speranza exonerata</i>	Barrens Speranza moth	G3G4	S1S3		
<i>Speranza ribearia</i> = <i>Itame ribearia</i>	Currant spanworm moth	G4	S2S3		
<i>Sphinx franckii</i>	Franck's sphinx	G4	S2S3		
<i>Sympistis perscripta</i> = <i>Lepipolys perscripta</i>	Scribbled sawfly moth	G4	S1S3		
<i>Synanthedon castaneae</i>	Chestnut clearwing moth	G3G5	SH		
<i>Syngrapha alias</i>	Hooked silver Y moth	G5	S1S2		
<i>Syngrapha rectangula</i>	Salt-and-pepper looper moth	G5	S2		
<i>Tricholita notata</i>	Marked Tricholita moth	G5	SH		
<i>Xanthorhoe iduata</i>	A geometrid moth	G4	S1S3		
<i>Zale curema</i>	A noctuid moth	G4	S1S3		
<i>Zale lunifera</i>	Pine barrens Zale moth	G3G4	S2		

VA DEPARTMENT OF CONSERVATION & RECREATION
DIVISION OF NATURAL HERITAGE

VIRGINIA RARE ANIMAL LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
DIPTERA (TRUE FLIES)					
<i>Basilia boardmani</i>	Southeastern myotis bat fly	G3	S1S2		
<i>Fletcherimyia fletcheri</i>	Pitcher plant fly	G5	S1S2		
<i>Metriocnemus knabi</i>	Pitcher plant midge	G5	S2		
<i>Spelobia tenebrarum</i>	A cave fly	G5	S1		
<i>Wyeomyia smithii</i> = <i>Wyeomyia haynei</i>	Pitcher plant mosquito	G5	S2		
HYMENOPTERA (BEES, WASPS, ANTS, & RELATIVES)					
<i>Bombus affinis</i>	Rusty-patched bumble bee	G1	S1		
ANIMAL ASSEMBLAGES					
Landbird Migratory Concentration Area		G3	S1		
Shorebird Migratory Concentration Area		G3	S2		
Colonial Wading Bird Colony		G5	S2		
Bird Nesting Colony		G5	SNR		
Freshwater Mussel Concentration Site		G3	SNR		
Monarch Butterfly Migratory Roost Site		GU	S1		

PART TWO:
ANIMAL WATCHLIST

NATURAL HERITAGE ANIMAL WATCH LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
VERTEBRATES					
FISH					
<i>Ambloplites cavifrons</i>	Roanoke bass	G3	S3		
<i>Chologaster cornuta</i>	Swampfish	G5	S3		
<i>Enneacanthus obesius</i>	Banded sunfish	G5	S3		
<i>Erimystax dissimilis</i> = <i>Hybopsis dissimilis</i>	Streamline chub	G4	S3		
<i>Erimystax insignis</i> = <i>Hybopsis insignis</i>	Blotched chub	G4	S3		
<i>Etheostoma kanawhae</i>	Kanawha darter	G4	S3		
<i>Etheostoma simoterum</i>	Snubnose darter	G3G4	S3		
<i>Etheostoma tennesseense</i>	Tennessee darter	G5	S3		
<i>Etheostoma zonale</i>	Banded darter	G5	S3		
<i>Fundulus catenatus</i>	Northern studfish	G5	S3		
<i>Fundulus lineolatus</i>	Lined topminnow	G5	S3		
<i>Lampetra aepyptera</i>	Least brook lamprey	G5	S3		
<i>Lampetra appendix</i>	American brook lamprey	G4	S3		
<i>Margariscus margarita</i> = <i>Semotilus margarita</i>	Pearl dace	G4	S3		
<i>Moxostoma ariommum</i> = <i>Scartomyzon ariommum</i>	Bigeye jumprock	G4	S3		
<i>Moxostoma duquesnei</i>	Black redhorse	G5	S3		
<i>Notropis chalybaeus</i>	Ironcolor shiner	G4	S3		
<i>Notropis chiliticus</i>	Redlip shiner	G4	S3		
<i>Notropis</i> sp. 4	Sawfin shiner	G4	S3		
<i>Percina caprodes</i>	Logperch	G5	S3		
<i>Percina gymnocephala</i>	Appalachia darter	G4	S3		
<i>Percina oxyrhynchus</i>	Sharpnose darter	G4	S3		
<i>Phenacobius uranops</i>	Stargazing minnow	G4	S3		
<i>Uranidea kanawhae</i> = <i>Cottus kanawhae</i>	Kanawha sculpin	G4	S3		
AMPHIBIANS					
<i>Aneides aeneus</i>	Green salamander	G3G4	S3		
<i>Desmognathus orestes</i>	Blue Ridge dusky salamander	G4	S3		
<i>Lithobates virgatipes</i> = <i>Rana virgatipes</i>	Carpenter frog	G4	S3		
<i>Plethodon kentucki</i>	Cumberland Plateau salamander	G4	S3		
<i>Plethodon montanus</i>	Northern Gray-cheeked salamander	G4	S3		
<i>Plethodon yonahlossee</i>	Yonahlossee salamander	G4	S3		
<i>Pseudacris nigrita</i>	Southern chorus frog	G5	S3		
<i>Pseudacris ocularis</i> = <i>Limnaoedus ocularis</i>	Little grass frog	G5	S3		
<i>Siren lacertina</i>	Greater siren	G5	S3		
<i>Stereochilus marginatus</i>	Many-lined salamander	G5	S3		
REPTILES					
<i>Farancia erythrogramma</i>	Rainbow snake	G4	S3		
<i>Graptemys geographica</i>	Northern map turtle	G5	S3		
<i>Malaclemys terrapin</i>	Diamond-backed terrapin	G4	S3		
<i>Opheodrys vernalis</i> = <i>Liochlorophis vernalis</i>	Smooth greensnake	G5	S3		
<i>Plestiodon anthracinus</i> = <i>Eumeces anthracinus</i>	Coal skink	G5	S3		
<i>Tantilla coronata</i>	Southeastern crowned snake	G5	S3		

NATURAL HERITAGE ANIMAL WATCH LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
BIRDS					
<i>Accipiter cooperii</i>	Cooper's Hawk	G5	S3B/S3N		
<i>Ardea herodias</i>	Great Blue Heron	G5	S3B/S5N		
<i>Cardellina canadensis</i> = <i>Wilsonia canadensis</i>	Canada Warbler	G5	S3S4B		
<i>Certhia americana</i>	Brown Creeper	G5	S3B/S5N		
<i>Empidonax minimus</i>	Least Flycatcher	G5	S3S4B		
<i>Haematopus palliatus</i>	American Oystercatcher	G5	S3B/S3N		
<i>Haliaeetus leucocephalus</i>	Bald Eagle	G5	S3S4B/S3S4N		
<i>Ictinia mississippiensis</i>	Mississippi Kite	G5	S2B		
<i>Ixobrychus exilis</i>	Least Bittern	G5	S3B/S3N		
<i>Nycticorax nycticorax</i>	Black-crowned Night-heron	G5	S3B/S4N		
<i>Passerculus sandwichensis</i>	Savannah Sparrow	G5	S3S4B/S4N		
<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	G5	S3S4B		
<i>Riparia riparia</i>	Bank Swallow	G5	S3B		
<i>Setophaga cerulea</i> = <i>Dendroica cerulea</i>	Cerulean Warbler	G4	S3S4B		
<i>Spiza americana</i>	Dickcissel	G5	S2S3B		
<i>Sterna forsteri</i>	Forster's Tern	G5	S3B/S3N		
<i>Sterna hirundo</i>	Common Tern	G5	S3B		
<i>Tyto alba</i>	Barn Owl	G5	S3B/S3N		
<i>Vermivora chrysoptera</i>	Golden-winged Warbler	G4	S3B		
<i>Vermivora cyanoptera</i> = <i>Vermivora pinus</i>	Blue-winged Warbler	G5	S3B		
MAMMALS					
<i>Blarina brevicauda telmalestes</i>	Dismal Swamp short-tailed shrew	G5T3	S3		
<i>Lasionycteris noctivagans</i>	Silver-haired bat	G5	SUB/S4N		
<i>Lasiurus cinereus</i>	Hoary bat	G5	SUB/S3N		
<i>Lontra canadensis</i> = <i>Lutra canadensis</i>	Northern river otter	G5	S4		
<i>Mustela nivalis</i>	Least weasel	G5	S3		
<i>Neotoma magister</i>	Allegheny (or Appalachian) woodrat	G3G4	S3		
<i>Peromyscus gossypinus</i>	Cotton mouse	G5	S3		
<i>Sciurus niger niger</i>	Southeastern fox squirrel	G5T5	S3		
<i>Sorex dispar</i>	Long-tailed or rock shrew	G4	S3		
<i>Sorex longirostris fisheri</i>	Dismal Swamp southeastern shrew	G5T4	S3		LT/PDL
<i>Spilogale putorius</i>	Eastern spotted skunk	G4	S3S4		
<i>Sylvilagus obscurus</i> = <i>Sylvilagus transitionalis</i> ?	Appalachian cottontail (New England cottontail)	G4	S4?		
<i>Sylvilagus palustris</i>	Marsh rabbit	G5	S3		
<i>Synaptomys cooperi helaletes</i>	Dismal Swamp bog lemming	G5T3	S3		

NATURAL HERITAGE ANIMAL WATCH LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
INVERTEBRATES					
GASTROPODA (SNAILS)					
<i>Elimia catenaria</i> = <i>Pleurocera catenaria</i>	Gravel Elimia	G4	S3		
<i>Fontigens orolibas</i>	Blue Ridge springsnail	G3	S3		
<i>Glyphyalinia picea</i>	Rust glyph	G3	S1S3		
<i>Glyphyalinia virginica</i>	Depressed glyph	G3	S3		
<i>Hendersonia occulta</i>	Cherrystone Drop	G4	S3		
<i>Leptoxis praerosa</i> = <i>Anculosa subglobosa</i>	Onyx rocksnaill	G5	S3		
<i>Megapallifera wetherbyi</i>	Blotchy mantleslug	G2G3	S1S3		
<i>Mesodon elevatus</i>	Proud globe	G5	S2?		
<i>Mesomphix rugeli</i>	Wrinkled button	G4	S3		
<i>Patera panselenus</i> = <i>Mesodon panselenus</i>	Virginia bladetooth	G3	S2?		
<i>Philomycus virginicus</i>	Virginia mantleslug	G3	S3		
<i>Promenetus exacuou</i> s	Sharp Sprite	G5	S3		
<i>Triodopsis burchi</i>	Pittsylvania three-tooth	G3	S3		
<i>Triodopsis fraudulenta</i>	Baffled three-tooth	G4	S3		
<i>Triodopsis tennesseensis</i>	Budded three-tooth	G4	S3		
<i>Ventridens arcellus</i>	Golden dome	G4	S3		
<i>Ventridens lasmodon</i>	Hollow dome	G4	S3		
<i>Ventridens pilsbryi</i>	Yellow dome	G4	S3		
BIVALVIA (MUSSELS & CLAMS)					
<i>Alasmidonta undulata</i>	Triangle floater	G4	S3S4		
<i>Anodonta implicata</i>	Alewife floater	G5	S3?		
<i>Fusconaia subrotunda</i>	Longsolid	G3	S3		
<i>Leptodea ochracea</i> = <i>Ligumia ochracea</i>	Tidewater mucket	G3G4	S3		
<i>Ligumia nasuta</i>	Eastern pondmussel	G4	S3		
<i>Medionidus conradicus</i>	Cumberland moccasinshell	G3G4	S3S4		
<i>Strophitus undulatus</i>	Creep	G5	S3S4		
<i>Villosa constricta</i>	Notched rainbow	G3	S3		
<i>Villosa vanuxemensis</i>	Mountain creekshell	G4	S3S4		
ARACHNIDA (SPIDERS, PSEUDOSCORPIONS & RELATIVES)					
Spiders					
<i>Antrodiaetus robustus</i>	Robust trapdoor spider	G3?	S2?		
<i>Hypochilus gertschi</i>	Gertsch's lampshade-web spider	G3	S3		
<i>Hypochilus pococki</i>	Pocock's lampshade-web spider	G4G5	S2S3		
<i>Nesticus holsingeri</i>	Holsinger's cave spider	G3G4	S3		
<i>Nesticus tennesseensis</i>	A cave spider	G3G4	S3S4		
<i>Sphodros atlanticus</i>	Atlantic purse-web spider	G4	S3		
<i>Sphodros coylei</i>	Coyle's purse-web spider	G4?	S3		
<i>Sphodros niger</i>	Black purse-web spider	G4G5	S3		
Pseudoscorpions					
<i>Chitrella cavicola</i>	A cave pseudoscorpion	G3	S3		

NATURAL HERITAGE ANIMAL WATCH LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
CRUSTACEA (AMPHIPODS, ISOPODS & DECAPODS)					
Amphipods					
<i>Crangonyx antennatus</i>	Appalachian Valley cave amphipod	G5	S3		
<i>Gammarus pseudolimnaeus</i>	Northern spring amphipod	G5	S3		
<i>Stygobromus araeus</i>	Tidewater interstitial amphipod	G3	S3		
<i>Stygobromus abditus</i>	James Cave amphipod	G3	S3		
<i>Stygobromus estesi</i>	Craig County cave amphipod	G4	S3		
<i>Stygobromus gracilipes</i>	Shenandoah Valley cave amphipod	G3G4	S3		
<i>Stygobromus indentatus</i>	Tidewater amphipod	G3	S3		
<i>Stygobromus spinosus</i>	Blue Ridge spring amphipod	G3	S3		
Isopods					
<i>Caecidotea holsingeri</i>	Greenbrier Valley cave isopod	G5	S3		
<i>Caecidotea pricei</i>	Price's cave isopod	G5	S3		
<i>Caecidotea recurvata</i>	Southwestern Virginia cave isopod	G5	S3		
<i>Caecidotea richardsonae</i>	Tennessee Valley cave isopod	G5	S3		
<i>Caecidotea vandeli</i>	Vandel's cave isopod	G3G4	S3		
Decapods					
<i>Cambarus angularis</i>	Angled crayfish	G3	S3		
<i>Cambarus chasmodactylus</i>	New River crayfish	G4	S3		
<i>Cambarus diogenes</i>	Devil crawfish	G5	S3		
<i>Cambarus longirostris</i>	Longnose crayfish	G5Q	S3		
<i>Cambarus sciotensis</i>	Teays River crayfish	G5	S3		
<i>Fallicambarus fodiens</i> = <i>Fallicambarus uhleri</i>	Digger crayfish	G5	S3		
<i>Orconectes cristavarius</i>	Spiny stream crayfish	G5	S3		
<i>Orconectes forceps</i>	Surgeon crayfish	G5	S3		
<i>Orconectes obscurus</i>	Allegheny crayfish	G5	S3		
DIPLOPODA (MILLIPEDES)					
<i>Abacion tessellatum</i>	A millipede	G5	S3		
<i>Andrognathus corticarius</i>	A millipede	G5	S3		
<i>Apheloria montana</i>	A millipede	G5	S3		
<i>Apheloria tigana</i>	A millipede	G5	S3		
<i>Brachycybe lecontii</i>	A millipede	G5	S3		
<i>Buotus carolinus</i>	A millipede	G3	S3		
<i>Cambala hubrichti</i>	A millipede	G5	S3		
<i>Cambala minor</i>	A millipede	G5	S3		
<i>Conotyla melinda</i>	Melinda millipede	G3	S3		
<i>Gyalostethus monticolens</i>	A millipede	G4	S3		
<i>Nannaria ericacea</i>	McGraw Gap xystodesmid millipede	G3	S3		
<i>Nannaria morrisoni</i>	A millipede	G3	S3		
<i>Nannaria wilsoni</i>	A millipede	G3	S3		
<i>Rudiloria kleinpeteri</i>	A millipede	G3	S3		
<i>Rudiloria trimaculata tortua</i>	A millipede	G5T2	S2?		
<i>Semionellus placidus</i>	A millipede	G3	S3		
<i>Zygonopus packardi</i> = <i>Trichopetalum packardi</i>	Packard's blind cave millipede	G4	S3		

NATURAL HERITAGE ANIMAL WATCH LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
INSECTS					
COLLEMBOLA (SPRINGTAILS)					
<i>Pseudosinella granda</i>	A cave springtail	G3	S3		
<i>Pygmarrhopalites carolynae</i>	A cave springtail	G4	S3		
<i>Pygmarrhopalites clarus</i>	A cave springtail	G4	S3		
<i>Pygmarrhopalites marshalli</i>	A cave springtail	G3	S3		
<i>Pygmarrhopalites pavo</i>	A cave springtail	G3?	S3		
<i>Schaefferia hubbardi</i>	A cave springtail	G3	S3		
<i>Sinella barri</i>	Barr's cave springtail	G5	S3		
DIPLURA (DIPLURANS)					
<i>Litocampa cookei</i>	Cooke's cave dipluran	G5	S3		
ODONATA (DAMSELFLIES & DRAGONFLIES)					
Damselflies					
<i>Argia bipunctulata</i>	Seepage dancer	G4	S3		
<i>Calopteryx angustipennis</i>	Appalachian jewelwing	G4	S3		
<i>Enallagma daeckii</i>	Attenuated bluet	G4	S3		
<i>Enallagma doubledayi</i>	Atlantic bluet	G5	S3		
<i>Enallagma dubium</i>	Burgundy bluet	G5	S3		
<i>Enallagma hageni</i>	Hagen's bluet	G5	S3		
<i>Enallagma weewa</i>	Blackwater bluet	G5	S3		
<i>Ichnura prognata</i>	Furtive forktail	G4	S3		
<i>Lestes forcipatus</i>	Sweetflag spreadwing	G5	S3		
<i>Nehalennia integricollis</i>	Southern sprite	G5	S3		
<i>Telebasis byersi</i>	Duckweed firetail	G5	S3		
Dragonflies					
<i>Anax longipes</i>	Comet darner	G5	S3		
<i>Cordulegaster erronea</i>	Tiger spiketail	G4	S3		
<i>Cordulia shurtleffii</i>	American emerald	G5	S3		
<i>Epithea spinosa</i> = <i>Tetragoneuria spinosa</i>	Robust baskettail	G4	S3		
<i>Gomphaeschna antilope</i>	Taper-tailed darner	G4	S3		
<i>Gomphus abbreviatus</i>	Spine-crowned clubtail	G4	S3		
<i>Gomphus dilatatus</i>	Blackwater clubtail	G5	S3		
<i>Gomphus quadricolor</i>	Rapids clubtail	G3G4	S3		
<i>Gomphus rogersi</i>	Sable clubtail	G4	S3		
<i>Helocordulia selysii</i>	Selys' sundragon	G4	S3		
<i>Leucorrhinia intacta</i>	Dot-tailed whiteface	G5	S3		
<i>Libellula flavida</i>	Yellow-sided skimmer	G5	S3		
ORTHOPTERA (GRASSHOPPERS, KATYDIDS, CRICKETS & RELATIVES)					
<i>Scudderia septentrionalis</i>	Northern bush katydid	G3?	S3		
COLEOPTERA (BEETLES)					
<i>Cicindela dorsalis media</i> = <i>Habroscelimorpha dorsalis media</i>	White tiger beetle	G3G4T3T4	S3		
<i>Cicindela purpurea</i>	Purple tiger beetle	G5	S3		
<i>Cicindela splendida</i>	Splendid tiger beetle	G5	S3		

NATURAL HERITAGE ANIMAL WATCH LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
Beetles (continued)					
<i>Megacephala carolina</i> = <i>Tetracha carolina</i>	Carolina big-headed tiger beetle	G5	S3		
<i>Nicrophorus defodiens</i>	A burying beetle	G4	S3		
<i>Phloeoxena signata</i>	A ground beetle	G3?	S3		
TRICHOPTERA (CADDISFLIES)					
<i>Adicophleps hitchcocki</i>	A brachycentrid caddisfly	G4G5	S1S3		
<i>Agapetus tomus</i>	A glossosomatid caddisfly	G5	S1S3		
<i>Agarodes libalis</i>	Spring-loving psiloneuran caddisfly	G3	S1S3		
<i>Ceraclea neffi</i>	A leptocerid caddisfly	G5	S1S3		
<i>Ceraclea punctata</i>	A leptocerid caddisfly	G5	S1S3		
<i>Ceraclea spongillovorax</i>	A leptocerid caddisfly	G3G4	S1S3		
<i>Ceraclea uvalo</i>	A leptocerid caddisfly	G2G4	S1S3		
<i>Cheumatopsyche parentum</i>	A hydropsychid caddisfly	G3	S3		
<i>Chimarra augusta</i>	A philopotamid caddisfly	G3G4	S3		
<i>Culoptila cantha</i>	A glossosomatid caddisfly	G5	S1S3		
<i>Heteroplectron americanum</i>	A caddisfly	G5	S2		
<i>Homoplectra monticola</i>	A hydropsychid caddisfly	G2G3	S2S3		
<i>Hydropsyche brunneipennis</i>	A hydropsychid caddisfly	G3G4	S1S3		
<i>Hydropsyche catawba</i>	A hydropsychid caddisfly	G3	S3		
<i>Hydropsyche frisoni</i>	A hydropsychid caddisfly	G5	S1S3		
<i>Hydropsyche hoffmani</i>	A hydropsychid caddisfly	G3G4	S3		
<i>Hydropsyche opthalmica</i>	A hydropsychid caddisfly	G3	S3		
<i>Hydropsyche potomacensis</i>	A hydropsychid caddisfly	G2G3	S2S3		
<i>Hydropsyche rotosa</i>	A hydropsychid caddisfly	G2G3	S2S3		
<i>Ironoquia lyrata</i>	A limnephilid caddisfly	G5	S1S3		
<i>Lepidostoma bryanti</i>	A lepidostomatid caddisfly	G5	S1S3		
<i>Lepidostoma carrolli</i>	A lepidostomatid caddisfly	G5	S1S3		
<i>Lepidostoma ontario</i>	A lepidostomatid caddisfly	G5	S1S3		
<i>Lepidostoma serratum</i>	A lepidostomatid caddisfly	G4	S1S3		
<i>Micrasema scotti</i>	A brachycentrid caddisfly	G3G4	S3		
<i>Micrasema sprulesi</i>	A brachycentrid caddisfly	G5	S1S3		
<i>Molanna tryphena</i>	A molannid caddisfly	G5	S1S2		
<i>Molanna uniophila</i>	A molannid caddisfly	G5	S1S2		
<i>Neophylax storus</i>	A uenoid caddisfly	G3	S3		
<i>Ochrotrichia denningi</i>	A microcaddisfly	G2G4	S1S3		
<i>Ochrotrichia graysoni</i>	A microcaddisfly	G3G4	S1S3		
<i>Oxyethira pescadori</i>	Pescador's bottle-cased caddisfly	G3G4	S1S2		
<i>Parapsyche cardis</i>	A hydropsychid caddisfly	G4	S2		
<i>Phylocentropus auriceps</i>	A caddisfly	G3G4	S2		
<i>Phylocentropus carolinus</i>	A caddisfly	G5	S2		
<i>Polycentropus centralis</i>	A polycentropodid caddisfly	G5	S1S2		
<i>Polycentropus pixi</i>	A polycentropodid caddisfly	G4	S1S2		
<i>Pycnopsyche virginica</i>	A limnephilid caddisfly	G3G4	S3		
<i>Rhyacophila atrata</i>	A rhyacophilid caddisfly	G5	S2		
<i>Rhyacophila shenandoahensis</i>	Shenandoah rhyacophilid caddisfly	G3	S3		
<i>Setodes guttatus</i>	A leptocerid caddisfly	G5	S1S3		
<i>Theliopsyche grisea</i>	A lepidostomatid caddisfly	G4	S1S3		
<i>Theliopsyche melas</i>	A lepidostomatid caddisfly	G4G5	S1S3		
<i>Triaenodes dipsius</i>	A leptocerid caddisfly	G5	S1S3		
<i>Triaenodes taenia</i>	A leptocerid caddisfly	G3G4	S1S3		

NATURAL HERITAGE INVERTEBRATE WATCH LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
LEPIDOPTERA (BUTTERFLIES, SKIPPERS & MOTHS)					
Butterflies					
<i>Atlides halesus</i>	Great purple hairstreak	G4G5	S3		
<i>Calephelis borealis</i>	Northern metalmark	G3G4	S3		
<i>Celastrina nigra</i> = <i>Celastrina ebenina</i>	Dusky azure	G4	S3S4		
<i>Danaus plexippus plexippus</i>	Monarch (eastern population)	G4T1	SU		
<i>Enodia creola</i>	Creole pearly eye	G3G4	S3S4		
<i>Pieris virginiensis</i>	West Virginia white	G3?	S3		
<i>Satyrium edwardsii</i>	Edwards' hairstreak	G4	S3		
<i>Satyrium favonius ontario</i> = <i>Fixsenia favonius ontario</i>	Northern oak hairstreak	G4T4	S3		
<i>Speyeria diana</i>	Diana fritillary	G3G4	S3		
Skippers					
<i>Amblyscirtes aesculapias</i>	Lace-winged roadside skipper	G3G4	S3		
<i>Amblyscirtes carolina</i>	Carolina roadside skipper	G3G4	S3S4		
<i>Amblyscirtes reversa</i>	Reversed roadside skipper	G3G4	S3		
<i>Hesperia leonardus</i>	Leonard's skipper	G4	S3?		
<i>Poanes aaroni</i>	Aaron's skipper	G4	S3		
<i>Poanes yehl</i>	Yehl skipper	G4	S3		
<i>Polites mystic</i>	Long dash	G5	S3		
<i>Thorybes confusus</i>	Confused cloudywing	G4	S2S4		
Moths					
<i>Abrostola ovalis</i>	A noctuid moth	G4	S2S4		
<i>Acronicta haesitata</i>	Hesitant dagger moth	G5	S2S4		
<i>Acronicta radcliffei</i>	Radcliffe's dagger moth	G5	S2S4		
<i>Acronicta tristis</i>	A dagger moth	GNR	S1S3		
<i>Anaplectoides prasina</i>	Green arches	G5	S1S3		
<i>Apamea cariosa</i>	A noctuid moth	G4	S1S3		
<i>Apamea lignicolora</i>	Wood-colored Apamea moth	G5	S2S4		
<i>Apamea plutonia</i>	A noctuid moth	G4	S2S4		
<i>Apamea sordens</i> = <i>Apamea finitima</i>	Bordered Apamea moth	GNR	S1S3		
<i>Argyrostroma quadrifilaris</i>	Four-lined chocolate moth	G4	S1S3		
<i>Arugisa latiorella</i> = <i>Arugisa watsoni</i>	A noctuid moth	G4	S1S3		
<i>Autographa ampla</i>	Large looper moth	G5	S1S3		
<i>Bellura brehmei</i>	A wetland borer moth	GNR	S2S4		
<i>Cabera quadrifasciaria</i>	Four-lined Cabera moth	GNR	S1S3		
<i>Callophastis granitosa</i>	Granitosa fern moth	G4	S1S3		
<i>Capsula subflava</i> = <i>Archanara subflava</i>	A sedge borer moth	G4	S1S3		
<i>Catocala angusi</i>	Angus' underwing	G4	S2S4		
<i>Catocala concumbens</i>	Sleepy underwing	G5	S1S3		
<i>Catocala crataegi</i>	Hawthorn underwing	G5	S2S4		
<i>Catocala insolabilis</i>	Inconsolable underwing	G5	S1S3		
<i>Catocala miranda</i>	Miranda underwing	G3G4	S2S4		
<i>Catocala parta</i>	Mother underwing	G5	S2S4		
<i>Catocala robinsoni</i>	Robinson's underwing	G4	S3		
<i>Catocala sappho</i>	Sappho underwing	G4	S1S3		
<i>Catocala serena</i>	Serene underwing	G5	S2S4		
<i>Crambidia pura</i>	Pure lichen moth	G4	S1S3		
<i>Cucullia florea</i>	A noctuid moth	GNR	S2S4		

NATURAL HERITAGE INVERTEBRATE WATCH LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
Moths (continued)					
<i>Cutina aluticolor</i>	A cypress moth	GNR	S3		
<i>Darapsa versicolor</i>	Hydrangea sphinx	G4	S2S4		
<i>Dasychira pinicola</i>	Pine tussock moth	G4	S1S3		
<i>Dasychira plagiata</i>	A tussock moth	GNR	S2S4		
<i>Derrima stellata</i>	Pink star moth	G4	S1S3		
<i>Diachrysia balluca</i>	A noctuid moth	GNR	S1S3		
<i>Dysstroma truncata</i>	Marbled carpet	GNR	S2S4		
<i>Emarginea percara</i>	A noctuid moth	G4	S3		
<i>Erastria cruentaria</i>	Thin-lined Erastria moth	G4	S2S4		
<i>Eueretagrotis attenta</i>	Attentive dart moth	G4	S1S3		
<i>Eueretagrotis perattenta</i>	Two-spot dart moth	G5	S1S3		
<i>Eueretagrotis sigmoides</i>	Sigmoid dart moth	G5	S3		
<i>Eulithis molliculata</i>	Dimorphic Eulithis moth	G4	S3		
<i>Euxoa bostoniensis</i>	Boston dart moth	GNR	S2S4		
<i>Euxoa declarata</i>	A dart moth	G4G5	S1S3		
<i>Euxoa messoria</i>	A dart moth	GNR	S2S4		
<i>Euxoa obeliscoides</i>	A dart moth	GNR	S2S4		
<i>Euxoa redimicula</i>	Fillet dart moth	GNR	S2S4		
<i>Euxoa scholastica</i>	Scholastic dart moth	GNR	S2S4		
<i>Euxoa violaris</i>	Violet dart moth	G4	S1S3		
<i>Feralia comstocki</i>	Comstock's sawfly	G5	S1S3		
<i>Givira francesca</i>	A carpenterworm moth	GNR	S1S3		
<i>Haploa colona</i>	Colona moth	G4G5	S2S4		
<i>Heliomata infulata</i>	Rare spring moth	G3G4	S2S4		
<i>Homochlodes disconventa</i>	Dark Homochlodes moth	G4	S2S4		
<i>Hydraecia stramentosa</i>	Figwort borer moth	G4	S2S4		
<i>Hypena sordidula</i>	Sordid Hypena moth	G4?	S2S4		
= <i>Bomolocha sordidula</i>					
<i>Iridopsis pergracilis</i>	A geometrid moth	G4G5	S1S3		
= <i>Anacamptodes pergracilis</i>					
<i>Isoparce cupressi</i>	Cypress sphinx	G4	S3		
<i>Lintneria eremitus</i>	Hermit sphinx	G4G5	S1S3		
= <i>Sphinx eremitus</i>					
<i>Lithophane petulca</i>	Wanton noctuid moth	G5	S1S3		
<i>Lithophane querquera</i>	Shivering pinion moth	GNR	S2S4		
<i>Lophocampa maculata</i>	Spotted Tussock Moth	G5	S1S3		
<i>Melanchra assimilis</i>	Black arches	G5	S1S3		
<i>Melipotis jucunda</i>	Merry Melipotis moth	G5	S1S3		
<i>Mesoleuca ruficollata</i>	White-ribboned carpet	G4	S2S4		
<i>Metanema inatomaria</i>	Pale Metanema moth	GNR	S1S3		
<i>Metarranthis</i> sp. 1	Mid-Atlantic Metarranthis moth	G3G4	S1S3		
<i>Morrisonia triangula</i>	Triangle-barred Morrisonia moth	G3G4	S2S4		
<i>Nemoria elfa</i>	Elfin emerald	G4?	S1S3		
<i>Neoligia crytora</i>	A noctuid moth	GNR	S2S4		
= <i>Oligia crytora</i>					
<i>Neoligia exhausta</i>	A noctuid moth	GNR	S1S3		
= <i>Oligia exhausta</i>					
<i>Panopoda repanda</i>	Orange Panopoda moth	G5	S3		
<i>Panthea acronyctoides</i>	Black zipzag	G5	S2S4		
<i>Papaipema impecuniosa</i>	Aster borer moth	G5	S2S4		
<i>Papaipema nepheloptena</i>	Turtlehead borer moth	G4	S2S4		
<i>Papaipema polymniae</i>	Leafcup borer moth	G4	S2S4		
<i>Papaipema pterisii</i>	Bracken fern borer moth	G5	S3		
<i>Papaipema speciosissima</i>	Osmunda borer moth	G4	S3		
<i>Papaipema unimoda</i>	Meadow rue borer moth	G5	S2S4		
<i>Pero zalissaria</i>	A geometrid moth	G4	S3		

NATURAL HERITAGE INVERTEBRATE WATCH LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
Moths (continued)					
<i>Petrophora subaequaria</i>	Northern Petrophora moth	G4G5	S1S3		
<i>Polychrysia morigera</i>	A noctuid moth	G4	S3		
<i>Protapamea danieli</i>	A cane moth	GNR	S1S3		
<i>Protodeltote albidula</i>	A noctuid moth	G5	S1S3		
= <i>Lithacodia albidula</i>					
<i>Pseudohermionassa tenuicula</i>	A dart moth	G4	S1S3		
= <i>Xestia tenuicula</i>					
<i>Schinia florida</i>	Primrose moth	G5	S2S4		
<i>Schinia nubila</i>	A flower moth	G5	S2S4		
<i>Schinia saturata</i>	Brown flower moth	G5	S2S4		
<i>Sideridis congermana</i>	German cousin moth	GNR	S1S3		
<i>Speranza abruptata</i>	A geometrid moth	G5	S2S4		
= <i>Itame abruptata</i>					
<i>Speranza evagaria</i>	A geometrid moth	G4G5	S1S3		
= <i>Itame evagaria</i>					
<i>Speranza exauspicata</i>	A geometrid moth	G4G5	S1S3		
= <i>Itame exauspicata</i>					
<i>Speranza subcessaria</i>	Barred Itame moth	G4	S2S4		
= <i>Itame subcessaria</i>					
<i>Sphinx chersis</i>	Great ash sphinx	G4G5	S2S4		
<i>Sphinx drupiferarum</i>	Wild cherry sphinx	G4	S1S3		
<i>Spragueia dama</i>	Southern Spragueia moth	G5	S2S4		
<i>Xanthorhoe labradorensis</i>	Labrador carpet	G4	S2S4		
<i>Zale calycanthata</i>	Double-banded Zale moth	G4	S2S4		
<i>Zale submediana</i>	A noctuid moth	G4	S2S4		

PART THREE:

ANIMAL REVIEW LIST
(Taxa of Uncertain Status)

NATURAL HERITAGE ANIMAL REVIEW LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
VERTEBRATES					
FISH					
<i>Lepomis marginatus</i>	Dollar sunfish	G5	SNR		
AMPHIBIANS					
<i>Lithobates kauffeldi</i> = <i>Rana kauffeldi</i>	Atlantic Coast leopard frog	GNR	SU		
REPTILES					
<i>Lampropeltis elapsoides</i> = <i>Lampropeltis triangulum elapsoides</i>	Scarlet kingsnake	G5	S2S4		
MAMMALS					
<i>Peromyscus leucopus easti</i>	Pungo mouse	G5T1	S1?		
<i>Sylvilagus floridanus hitchensi</i>	Smith Island cottontail	G5THQ	SH		
INVERTEBRATES					
GASTROPODA (SNAILS)					
<i>Catinella hubrichti</i>	Snowhill ambersnail	G3	SU		
<i>Discus nigrimontanus</i>	Black Mountain disc	G4	SU		
<i>Euchemotrema leai</i> = <i>Stenotrema leai aliciae</i>	Lowland pillsnail	G5	SU		
<i>Fumonelix christyi</i> = <i>Mesodon christyi</i>	Glossy covert	G3	SU		
<i>Gastrocopta clappi</i> = <i>Gastrocopta armifera clappi</i>	Bluegrass snaggletooth	G4G5	SU		
<i>Gastrocopta pellucida</i>	Slim snaggletooth	G5	SU		
<i>Gastrodonta fonticula</i> = <i>Gastrocopta interna fonticula</i>	Appalachia bellytooth	G3G4	SU		
<i>Glyphyalinia praecox</i>	Brilliant glyph	G4	SU		
<i>Glyphyalinia sculptilis</i>	Suborb glyph	G4	SU		
<i>Helicodiscus shimeki</i>	Temperate coil	G4G5	SU		
<i>Holsingeria</i> sp. 1	Skyline Caverns snail	G1Q	S1		
<i>Inflectarius kalmianus</i> = <i>Mesodon kalmianus</i>	Brown globelet	G3	SU		
<i>Lobosculum pustuloides</i> = <i>Polygyra pustuloides</i>	Tiny Liptooth	G4	SU		
<i>Mesomphix subplanus</i>	Flat button	G3G4	SU		
<i>Oxyloma subeffusum</i>	Chesapeake ambersnail	G3	SU		
<i>Pallifera varia</i>	Variable mantleslug	G2G4	SU		
<i>Paravitrea grimmi</i>	Buff Supercoil	G1G3Q	SU		
<i>Paravitrea placentula</i>	Glossy supercoil	G3	SU		
<i>Paravitrea pontis</i>	Natural Bridge supercoil	G3	SU		
<i>Paravitrea reesei</i>	Round supercoil	G3	SU		
<i>Patera laevior</i>	Smooth Bladetooth	G4	SU		
<i>Pomatiopsis cincinnatiensis</i>	Brown walker	G4	SU		
<i>Pupilla muscorum</i>	Widespread column	G5	SU		
<i>Somatogyryus pennsylvanicus</i>	Shale pebblesnail	G3	SU		
<i>Stenotrema pilula</i>	Pygmy slitmouth	G3G4	SU		
<i>Stenotrema spinosum</i>	Carinate slitmouth	G4	SU		
<i>Striatura exigua</i>	Ribbed striate	G5	SU		
<i>Striatura milium</i>	Fine-ribbed striate	G5	SU		
<i>Triodopsis anteridon</i>	Carter threetooth	G3	SU		
<i>Triodopsis pendula</i>	Hanging Rock threetooth	G3	SU		

NATURAL HERITAGE ANIMAL REVIEW LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
Snails (continued)					
<i>Vallonia parvula</i>	Trumpet vallonia	G4	SU		
<i>Ventridens decussatus</i>	Crossed dome	G3	SU		
<i>Ventridens lawae</i>	Rounded dome	G4	SU		
<i>Vertigo bollesiana</i>	Delicate vertigo	G4	SU		
<i>Vertigo clappi</i>	Cupped vertigo	G1G2	SU		
<i>Vertigo oralis</i>	Palmetto vertigo	G5	SU		
<i>Vertigo parvula</i>	Smallmouth Vertigo	G3	SU		
<i>Vertigo teskeyae</i>	Swamp vertigo	G5	SU		
<i>Vertigo ventricosa</i>	Five-tooth vertigo	G5	SU		
<i>Vitrinizonites latissimus</i>	Glassy grapeskin	G4	SU		
BIVALVIA (MUSSELS & CLAMS)					
Clams					
<i>Pisidium equilaterale</i>	Round peaclam	G4G5	SU		
ARACHNIDA (SPIDERS, PSEUDOSCORPIONS & RELATIVES)					
Spiders					
<i>Amaurobius borealis</i>	An amaurobiid spider	G5	SU		
<i>Barronopsis jeffersi</i>	A funnel-web spider	G3	SU		
<i>Castianeira trilineata</i>	A two-clawed hunting spider	G4?	SU		
<i>Clubiona spiralis</i>	A two-clawed hunting spider	G4	SU		
<i>Drassyllus louisianus</i>	A gnaphosid spider	G4?	SU		
<i>Drassyllus</i> sp. 1	A gnaphosid spider	GU	SU		
<i>Pisaurina dubia</i>	A nursery-web spider	G4	SU		
<i>Xysticus emertoni</i>	Emerton's crab spider	G5	SU		
<i>Sphodros rufipes</i>	Red-legged purse-web spider	G4	SU		
Harvestmen					
<i>Leiobunum hoffmani</i>	A harvestman	GNR	S2?		
Pseudoscorpions					
<i>Kleptochthonius polychaetus</i>	Shenandoah pseudoscorpion	GU	SU		
CRUSTACEA (AMPHIPODS, ISOPODS & DECAPODS)					
Amphipods					
<i>Crangonyx acicularis</i>	A freshwater amphipod	G1G3	SU		
<i>Crangonyx gracilis</i>	A freshwater amphipod	G4	SU		
<i>Stygobromus</i> sp. 10	A cave amphipod (Botetourt Co.)	G1	S1		
<i>Stygobromus</i> sp. 11	A cave amphipod (Nelson Co.)	G1	S1		
<i>Stygobromus</i> sp. 12	A cave amphipod (Rockbridge Co.)	G1	S1		
<i>Stygobromus</i> sp. 19	A cave amphipod (Scott Co.)	G1	S1		
<i>Stygobromus</i> sp. 20	A cave amphipod (Bath, Highland Co.)	G1	S1		
Isopods					
<i>Caecidotea</i> sp. nov.	A groundwater isopod (Caroline Co.)	GNR	SNR		
Branchiopods					
<i>Eulimnadia</i> sp. 1	A clam shrimp	GNR	SU		
Decapods					
<i>Cambarus buntingi</i>	Longclaw crayfish	G4Q	S2		

NATURAL HERITAGE ANIMAL REVIEW LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
DIPLOPODA (MILLIPEDES)					
<i>Auturus erythropygus</i>	A millipede	G3	SU		
<i>Chaetaspis albus</i>	A millipede	G4	SU		
<i>Euryurus leachii fraternus</i>	A millipede	G4T?	SU		
<i>Okeanobates americanus</i>	A millipede	G4	SU		
<i>Onomeris underwoodi</i>	A millipede	G5	SU		
<i>Orinisobates nigrior</i>	A millipede	G4	SU		
<i>Petaserpes rosalbus</i>	A millipede	G5	SU		
= <i>Polyzonium rosalbum</i>					
<i>Pseudopolydesmus paludicolus</i>	A millipede	GU	SU		
<i>Striaria columbiana</i>	A millipede	G2	SU		
<i>Striaria</i> sp. 1	A millipede	G1	S1		
CHILOPODA (CENTIPEDES)					
<i>Escaryus ethopus</i>	A centipede	GNR	SU		
INSECTS					
DIPLURA (DIPLURANS)					
<i>Litocampa</i> sp. 10	A cave dipluran (Smyth)	G1	S1		
<i>Litocampa</i> sp. 11 (near <i>cookei</i>)	A cave dipluran (Lee/Scott/Wise)	G2	S2		
EPHEMEROPTERA (MAYFLIES)					
<i>Ameletus cryptostimulus</i>	Allegheny mayfly	G4	S2S4		
<i>Ameletus tarteri</i>	Tarter's Ameletus mayfly	G2G4	SU		
<i>Isonychia arida</i>	A mayfly	G5	SU		
<i>Isonychia georgiae</i>	Georgia Isonychia mayfly	G4	SU		
<i>Isonychia tusculanensis</i>	A mayfly	G4	SU		
<i>Iswaeon anoka</i>	A mayfly	G5	SU		
= <i>Heterocloeon anoka</i>					
<i>Paraleptophlebia assimilis</i>	A mayfly	G4	SU		
<i>Paraleptophlebia jeanae</i>	A mayfly	G3G4	SU		
<i>Rhithrogena anomala</i>	A mayfly	G3G4	SU		
<i>Waynokiops dentatogriphus</i>	A mayfly	GNR	SNR		
ODONATA (DAMSELFLIES & DRAGONFLIES)					
<i>Epiptera costalis</i>	Stripe-winged baskettail	G5	S2S4		
= <i>Tetragoneuria costalis</i>					
<i>Gomphus hybridus</i>	Cocoa clubtail	G4	SU		
<i>Lestes dryas</i>	Emerald spreadwing	G5	SNR		
<i>Lestes vidua</i>	Carolina spreadwing	G5	SNA		
<i>Sympetrum internum</i>	Cherry-faced meadowhawk	G5	SU		
= <i>Sympetrum janeae</i>					
PLECOPTERA (STONEFLIES)					
<i>Allocaonia harperi</i>	Stonyfork snowfly	G4	SU		
<i>Alloperla banksi</i>	Tufted sallfly	G4	SU		
<i>Alloperla biserrata</i>	Dusky sallfly	G3	SU		
<i>Alloperla ideii</i>	*Vernal sallfly	G3	SU		
<i>Alloperla nanina</i>	Swannanoa sallfly	G4	SU		
<i>Alloperla neglecta</i>	Tennessee sallfly	G3	SU		
<i>Bolotoperla rossi</i>	Smoky willowfly	G4	SU		
<i>Hansonoperla appalachia</i>	Appalachian stonefly	G3	SU		
<i>Isogenoides varians</i>	Rock Island springfly	G3G4	SU		

NATURAL HERITAGE ANIMAL REVIEW LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
Stoneflies (continued)					
<i>Isoperla nelsoni</i>	Nelson stripetail stonefly	GNR	SNR		
<i>Isoperla powhatan</i>	Powhatan stripetail stonefly	GNR	SNR		
<i>Isoperla reesi</i>	Elk Garden stripetail stonefly	GNR	SNR		
<i>Isoperla stewarti</i>	Stewart stripetail stonefly	GNR	SNR		
<i>Isoperla yuchi</i>	Yuchi stripetail stonefly	GNR	SNR		
<i>Ostrocerca complexa</i>	Notched forestfly	G4	S1S3		
<i>Ostrocerca prolongata</i>	Bent forestfly	G3	S1S3		
<i>Paragnetina ichusa</i>	Widencollar stonefly	G3	S1S3		
<i>Perlesta roblei</i>	Dragon Run stonefly	G3	SU		
<i>Perlesta shawnee</i>	Shawnee stonefly	G3	SU		
<i>Perlesta teaysia</i>	Teays stonefly	G4	SU		
<i>Pteronarcys comstocki</i>	Spiny salmonfly	G3	SU		
<i>Pteronarcys scotti</i>	Carolina salmonfly	G4	SU		
<i>Shipsa rotunda</i>	Intrepid forestfly	G5	SU		
<i>Tallaperla cornelia</i>	Southeastern roachfly	G4	SU		
ORTHOPTERA (GRASSHOPPERS, KATYDIDS, CRICKETS & RELATIVES)					
<i>Melanoplus celatus</i>	A spur-throat grasshopper	GU	SU		
<i>Melanoplus devius</i>	A spur-throat grasshopper	GU	SU		
<i>Melanoplus impudicus</i>	Immodest spur-throat grasshopper	G4G5	SU		
<i>Melanoplus pachycercus</i>	A spur-throat grasshopper	G2G3	SNR		
HEMIPTERA (TRUE BUGS, CICADAS, LEAFHOPPERS & RELATIVES)					
<i>Acantholomidea denticulata</i>	A shield bug	GNR	SU		
<i>Allopodops mississippiensis</i>	Mississippi turtle bug	G2G3	SU		
<i>Botocudo modestus</i>	A seed bug	G5	SU		
<i>Corixidea major</i>	A true bug	GU	SU		
<i>Elasmotherus atricornis</i>	Hercules club stink bug	G3?	SU		
<i>Eurygaster alternata</i>	A shield bug	G5	SU		
<i>Galgupha denudata</i>	A shield bug	G3	SU		
<i>Glyptocombus saltator</i>	A true bug	GNR	SU		
<i>Isocytus chapmani</i>	Chapman's shore bug	GNR	SU		
<i>Isthmocoris piceus</i>	Black stalk-eyed bug	G5	SU		
<i>Ligyrocoris depictus</i>	A seed bug	G4?	SU		
<i>Nannocoris arenarius</i>	A true bug	GU	SU		
<i>Neolygus crataegi</i>	Hawthorn plant bug	GNR	SU		
<i>Nepa apiculata</i>	A water scorpion	GNR	SU		
<i>Oncozygia clavicornis</i>	A turtle bug	G3	SU		
<i>Plagiognathus repetitus</i>	Pine barrens plant bug	GNR	SU		
<i>Pnirontis languida</i>	An assassin bug	G4	SU		
<i>Ranatra australis</i>	Southern water scorpion	G5	SU		
<i>Ranatra drakei</i>	Drake's water scorpion	G4	SU		
<i>Stachyocnemus apicalis</i>	Sandpit alydid bug	G4	SU		
<i>Tomionotus communis</i>	A burrower bug	G5	SU		
<i>Trialeurodes phlogis</i>	Phlox whitefly	GU	SU		
COLEOPTERA (BEETLES)					
<i>Anthophylax hoffmani</i>	A longhorned beetle	GNR	S1S3		
<i>Calligrapha pnirsa</i>	A leaf beetle	G3	S1S3		
<i>Cyclotrachelus incisus</i>	A ground beetle	G4	SU		
<i>Diabrotica cristata</i>	A leaf beetle	GNR	SU		
<i>Eucaerus varicornis</i>	A ground beetle	G4?	SU		
<i>Helops sulcipennis</i>	A flightless darkling beetle	G3?	S1S3		

NATURAL HERITAGE ANIMAL REVIEW LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
Beetles (continued)					
<i>Hopierius planatus</i>	A predaceous diving beetle	GNR	SU		
<i>Hydrobiomorpha casta</i>	A water scavenger beetle	GNR	SU		
<i>Laccophilus schwarzi</i>	Schwarz' diving beetle	GNR	SU		
<i>Paralichas trivittis</i>	A beetle	GNR	SU		
= <i>Odontonyx trivittis</i>					
<i>Pentagonica picticornis</i>	A ground beetle	GNR	SU		
<i>Phanaeus igneus</i>	A scarab beetle	G5	SU		
<i>Pseudaptinus lecontei</i>	A ground beetle	GNR	SU		
<i>Pseudaptinus pygmaeus</i>	A ground beetle	GNR	SU		
= <i>Thalpius pygmaeus</i>					
<i>Sosylus costatus</i>	A beetle	GNR	SU		
<i>Stenocorus schaumii</i>	Schaum's longhorn beetle	GNR	SU		
<i>Urographis triangulifer</i>	A longhorned beetle	G4?	SU		
= <i>Graphisurus triangulifer</i>					
MECOPTERA (SCORPIONFLIES)					
<i>Boreus nivoriundus</i>	A snow scorpionfly	G4	SU		
TRICHOPTERA (CADDISFLIES)					
<i>Agapetus hessi</i>	A glossosomatid caddisfly	G4G5	S2S4		
<i>Agapetus iridis</i>	A glossosomatid caddisfly	G5	S2S4		
<i>Agapetus minutus</i>	A glossosomatid caddisfly	G4G5	SU		
<i>Agapetus pinatus</i>	A glossosomatid caddisfly	G5	S2S4		
<i>Brachycentrus solomoni</i>	A brachycentrid caddisfly	G4	S2S4		
<i>Brachycentrus spinae</i>	A brachycentrid caddisfly	G4	S2S4		
<i>Ceraclea ophioderus</i>	A leptocerid caddisfly	G5	S2S4		
<i>Ceratopsyche alhedra</i>	A hydropsychid caddisfly	G5	S2S4		
<i>Cheumatopsyche gracilis</i>	A hydropsychid caddisfly	G5	S2S4		
<i>Cheumatopsyche gyra</i>	A hydropsychid caddisfly	G4G5	S2S4		
<i>Cheumatopsyche halima</i>	A hydropsychid caddisfly	G5	S2S4		
<i>Frenesia difficilis</i>	A limnephilid caddisfly	G5	S2S4		
<i>Frenesia missa</i>	A limnephilid caddisfly	G5	S2S4		
<i>Goerita betteni</i>	A caddisfly	G4	S2S4		
<i>Glossosoma intermedium</i>	A glossosomatid caddisfly	G5	S2S4		
<i>Homoplectra doringa</i>	A hydropsychid caddisfly	G5	S2S4		
<i>Hydropsyche franclemonti</i>	A hydropsychid caddisfly	G5	S2S4		
<i>Hydroptila acadia</i>	A microcaddisfly	GU	SU		
<i>Hydroptila ajax</i>	A microcaddisfly	G5	SU		
<i>Hydroptila amoena</i>	A microcaddisfly	G5	SU		
<i>Hydroptila artesa</i>	A microcaddisfly	G2G3	SU		
<i>Hydroptila dentata</i>	A microcaddisfly	G3G4	SU		
<i>Hydroptila eramosa</i>	A microcaddisfly	G1G3	SU		
<i>Hydroptila fiskei</i>	A microcaddisfly	G4	SU		
<i>Hydroptila lennoxii</i>	A microcaddisfly	G2G4	SU		
<i>Hydroptila lonchera</i>	A microcaddisfly	G2G3	SU		
<i>Hydroptila maculata</i>	A microcaddisfly	G3G4	SH/SU		
<i>Hydroptila spinata</i>	A microcaddisfly	G4	SU		
<i>Hydroptila talladega</i>	A microcaddisfly	G4	SU		
<i>Hydroptila tortosa</i>	A microcaddisfly	G4G5	SH/SU		
<i>Hydroptila vala</i>	A microcaddisfly	G4	SU		
<i>Hydroptila virgata</i>	A microcaddisfly	G5	SU		
<i>Ironoquia parvula</i>	A limnephilid caddisfly	G5	S2S4		
<i>Ithytrichia clavata</i>	A microcaddisfly	G5	SU		
<i>Lepidostoma pictile</i>	A lepidostomatid caddisfly	G5	S2S4		

NATURAL HERITAGE ANIMAL REVIEW LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
Caddisflies (continued)					
<i>Leptocerus americanus</i>	A leptocerid caddisfly	G5	S2S4		
<i>Limnephilus indivisus</i>	A limnephilid caddisfly	G5	S2S4		
<i>Limnephilus moestus</i>	A limnephilid caddisfly	G5	S2S4		
<i>Macrostemum transversum</i>	A hydroptychid caddisfly	G3G5	S2S4		
<i>Mayatrichia ayama</i>	A microcaddisfly	G5	SU		
<i>Micrasema burksi</i>	A brachycentrid caddisfly	G4G5	S2S4		
<i>Neophylax ornatus</i>	A uenoid caddisfly	G4G5	S2S4		
<i>Neophylax wigginsi</i>	A uenoid caddisfly	G3G4	S2S4		
<i>Neotrichia vibrans</i>	A microcaddisfly	G5	SU		
<i>Ochrotrichia arva</i>	A microcaddisfly	G4G5	SU		
<i>Ochrotrichia tarsalis</i>	A microcaddisfly	G5	SU		
<i>Ochrotrichia wojcickyi</i>	A microcaddisfly	G4G5	SU		
<i>Orthotrichia cristata</i>	A microcaddisfly	G5	SU		
<i>Oxyethira dualis</i>	A microcaddisfly	G5	SH/SU		
<i>Oxyethira janella</i>	Little-entrance Oxyethiran microcaddisfly	G5	SU		
<i>Oxyethira michiganensis</i>	A microcaddisfly	G5	SU		
<i>Oxyethira rivicola</i>	A microcaddisfly	G5	SU		
<i>Paranyctiophylax denningi</i>	A polycentropodid caddisfly	G4G5	SU		
<i>Paranyctiophylax serratus</i>	A polycentropodid caddisfly	G4	SU		
<i>Polycentropus interruptus</i>	A polycentropodid caddisfly	G5	SU		
<i>Polycentropus nasotius</i>	A polycentropodid caddisfly	G5	SU		
<i>Polycentropus pentus</i>	A polycentropodid caddisfly	G5	SU		
<i>Pseudostenophylax sparsus</i>	A limnephilid caddisfly	G5	S2S4		
<i>Ptilostomis semifasciata</i>	A phryganeid caddisfly	G5	S2S4		
<i>Pycnopsyche conspersa</i>	A limnephilid caddisfly	G3G4	S2S4		
<i>Pycnopsyche flavata</i>	A limnephilid caddisfly	G4	S2S4		
<i>Rhyacophila acutiloba</i>	A rhyacophilid caddisfly	G5	S2S4		
<i>Rhyacophila formosa</i>	A rhyacophilid caddisfly	G5	S2S4		
<i>Rhyacophila invaria</i>	A rhyacophilid caddisfly	G5	S2S4		
<i>Rhyacophila manistee</i>	A rhyacophilid caddisfly	G5	S2S4		
<i>Rhyacophila otica</i>	A rhyacophilid caddisfly	G3G4Q	S1S3		
<i>Rhyacophila vibox</i>	A rhyacophilid caddisfly	G5	S2S4		
<i>Stactobiella martynovi</i>	A microcaddisfly	G4	SU		
<i>Wormaldia shawnee</i>	A philopotamid caddisfly	G4G5	S2S4		

LEPIDOPTERA (BUTTERFLIES, SKIPPERS & MOTHS)

Butterflies

<i>Celastrina lucia</i> = <i>Celastrina ladon lucia</i>	Northern spring azure	G5	SU		
<i>Celastrina serotina</i>	Cherry gall azure	G5	SU		
<i>Euphydryas phaeton</i>	Baltimore checkerspot	G4	SU		
<i>Papilio appalachiensis</i> = <i>Pterourus appalachiensis</i>	Appalachian tiger swallowtail	G4	SU		
<i>Satyrium caryaevorus</i>	Hickory hairstreak	G4	SU		

Skippers

<i>Autochton cellus</i>	Golden-banded skipper	G4	SU		
-------------------------	-----------------------	----	----	--	--

Moths

<i>Acronicta dactylina</i>	Fingered dagger moth	G5	SU		
<i>Acronicta subochrea</i>	Puzzling dagger moth	G4?	SU		
Apameini new genus 2, sp. 1	A cane moth	GNR	SNR		
Apameini new genus 2, sp. 2	A cane moth	GNR	SNR		
Apameini new genus 2, sp. 3	A cane moth	GNR	SNR		

NATURAL HERITAGE ANIMAL REVIEW LIST

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
Moths (continued)					
<i>Bellura vulnifica</i> = <i>Bellura melanopyga</i>	A wetland borer moth	GNR	SU		
<i>Catocala antinympa</i>	Sweetfern underwing	G5	SU		
<i>Cucullia alfarata</i>	A noctuid moth	G4	SU		
<i>Eupithecia peckorum</i>	Peck's Eupithecia moth	G4	SU		
<i>Glena cognataria</i>	Blueberry Gray	G4	SU		
<i>Hydriomena bistriolata</i>	A geometrid moth	GNR	SU		
<i>Hydriomena divisaria</i>	Black-dashed Hydriomena moth	GNR	SU		
<i>Idia majoralis</i>	Major Idia moth	GNR	SU		
<i>Lacinipolia lustralis</i>	A noctuid moth	GNR	SU		
<i>Leucania commoides</i>	A noctuid moth	G5	SU		
<i>Lithophane innominata</i>	Nameless pinion moth	G5	SU		
<i>Lithophane querquera</i>	Shivering pinion moth	GNR	S2S4		
<i>Orthofidonia exornata</i>	A geometrid moth	GNR	SU		
<i>Papaipema nelita</i>	Coneflower borer moth	G4	SU		
<i>Psaphida grandis</i> = <i>Eutolype grandis</i>	Gray sallow	G4	SU		
<i>Psaphida thaxterianus</i>	A noctuid moth	G4	SU		
<i>Schinia bina</i>	Bina flower moth	G4	SU		
<i>Sympistis badistriga</i> = <i>Homohadena badistriga</i>	Brown-lined sallow moth	G4	SU		
<i>Tarache delecta</i> = <i>Acontia delecta</i>	Delightful Bird-dropping moth	GU	SU		
<i>Virbia ferruginosa</i> = <i>Holomelina ferruginosa</i>	Rusty tiger moth	G5	SU		
<i>Virbia immaculata</i> = <i>Holomelina immaculata</i>	Immaculate tiger moth	G4	SU		
<i>Zale</i> sp. 2 near <i>squamularis</i>	A Zale moth	G4Q	SU		
<i>Zale</i> sp. 3 near <i>buchholzi</i>	Maritime Zale moth	G3G4	SU		
<i>Zanclognatha theralis</i> = <i>Zanclognatha gypsalis</i>	A noctuid moth	G4	SU		
HYMENOPTERA (BEES, WASPS, ANTS, & RELATIVES)					
<i>Bombus bohemicus</i> = <i>Bombus ashtoni</i>	Ashton cuckoo bumble bee	G?	SH/SU		
<i>Bombus citrinus</i>	Lemon Cuckoo bumble bee	G4G5	SU		
<i>Bombus fraternus</i>	Southern Plains bumble bee	G4	SU		
<i>Bombus pensylvanicus</i>	American bumble bee	G3G4	SU		
<i>Bombus sandersoni</i>	Sanderson bumble bee	G4G5	SU		
<i>Bombus terricola</i>	Yellow-banded bumble bee	G2G4	SU		

APPENDIX 1. FEDERALLY ENDANGERED AND THREATENED VERTEBRATE ANIMALS OF VIRGINIA

(exclusive of extirpated species, see Appendix 3)

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
VERTEBRATES					
FISH					
<i>Acipenser brevirostrum</i>	Shortnose sturgeon	G3	SHB/S1N	LE	LE
<i>Acipenser oxyrinchus</i>	Atlantic sturgeon	G3	S2	LE	LE
<i>Chrosomus cumberlandensis</i> = <i>Phoxinus cumberlandensis</i>	Blackside dace	G2	S1	LT	LT
<i>Erimonax monachus</i> = <i>Cyprinella monacha</i> , <i>Hybopsis monacha</i>	Spotfin chub (= turquoise shiner)	G2	S1	LT	LT
<i>Erimystax cahni</i> = <i>Hybopsis cahni</i>	Slender chub	G1	S1	LT	LT
<i>Etheostoma percnurum</i>	Duskytail darter	G1	S1	LE	LE
<i>Noturus flavipinnis</i>	Yellowfin madtom	G1	S1	LT	LT
<i>Percina rex</i>	Roanoke logperch	G1G2	S1S2	LE	LE
AMPHIBIANS					
<i>Plethodon shenandoah</i>	Shenandoah salamander	G1	S1	LE	LE
REPTILES					
<i>Caretta caretta</i>	Loggerhead (sea turtle)	G3	S1B/S1N	LT	LT
<i>Chelonia mydas</i>	Green turtle	G3	SNA	LT	LT
<i>Dermochelys coriacea</i>	Leatherback (sea turtle)	G2	SNA	LE	LE
<i>Eretmochelys imbricata</i>	Atlantic hawksbill (sea turtle)	G3	SNA	LE	LE
<i>Glyptemys muhlenbergii</i> = <i>Clemmys muhlenbergii</i>	Bog turtle	G3	S2	LT/SA	LE
<i>Lepidochelys kempii</i>	Kemp's ridley (sea turtle)	G1	S1N	LE	LE
BIRDS					
<i>Calidris canutus rufa</i>	Red Knot	G4T2	S2N	LT	
<i>Charadrius melodus</i>	Piping Plover	G3	S2B/S1N	LT	LT
<i>Picoides borealis</i>	Red-cockaded Woodpecker	G3	S1	LE	LE
<i>Setophaga kirtlandii</i> = <i>Dendroica kirtlandii</i>	Kirtland's Warbler	G1	SNA	LE	LE
<i>Sterna dougallii</i>	Roseate Tern	G4	SHB	LE	LE
MAMMALS					
<i>Balaenoptera borealis</i>	Sei whale	G3	SNA	LE	LE
<i>Balaenoptera musculus</i>	Blue whale	G3G4	SNA	LE	LE
<i>Balaenoptera physalus</i>	Fin whale	G3G4	SNA	LE	LE
<i>Corynorhinus townsendii virginianus</i> = <i>Plecotus townsendii virginianus</i>	Virginia big-eared bat	G3G4T2	S1	LE	LE
<i>Eubalaena glacialis</i> = <i>Balaena glacialis</i>	Northern right whale	G1	SNA	LE	LE
<i>Glaucomys sabrinus coloratus</i>	Carolina northern flying squirrel	G5T2	S1	LE	LE
<i>Megaptera novaeangliae</i>	Humpback whale	G4	S1N	LE	LE
<i>Myotis grisescens</i>	Gray myotis (bat)	G3	S1	LE	LE
<i>Myotis sodalis</i>	Indiana bat (= social myotis)	G2	S1	LE	LE
<i>Myotis septentrionalis</i>	Northern long-eared Myotis (bat)	G1G3	S1S3	LT	
<i>Physeter macrocephalus</i> = <i>Physeter catodon</i>	Sperm whale	G3G4	SNA	LE	LE
<i>Trichechus manatus</i>	West Indian manatee	G2	SNA	LE/PT	LE

APPENDIX 2. FEDERALLY ENDANGERED AND THREATENED INVERTEBRATE ANIMALS OF VIRGINIA
(exclusive of extirpated species, see Appendix 3)

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE
STATUS					
INVERTEBRATES					
GASTROPODA (SNAILS)					
<i>Polygyriscus virginianus</i>	Virginia coil (= Virginia fringed mountain snail)	G1	S1	LE	LE
BIVALVIA (MUSSELS)					
<i>Alasmidonta heterodon</i>	Dwarf wedgemussel	G1G2	S1	LE	LE
<i>Cumberlandia monodonta</i>	Spectaclecase	G3	S1	LE	LE
<i>Cyprogenia stegaria</i>	Fanshell	G1Q	S1	LE	LE
<i>Dromus dromas</i>	Dromedary pearlymussel	G1	S1	LE	LE
<i>Epioblasma brevidens</i>	Cumberland combshell	G1	S1	LE	LE
<i>Epioblasma capsaeformis</i>	Oyster mussel	G1	S1	LE	LE
<i>Epioblasma florentina walkeri*</i>	Tan riffleshell	G1T1	S1	LE	LE
<i>Epioblasma triquetra</i>	Snuffbox	G3	S1	LE	LE
<i>Fusconaia cor</i>	Shiny pigtoe	G1	S1	LE	LE
<i>Fusconaia cuneolus</i>	Fine-rayed pigtoe	G1	S1	LE	LE
<i>Hemistena lata</i>	Cracking pearlymussel	G1	S1	LE	LE
<i>Lemiox rimosus</i>	Birdwing pearlymussel	G1	S1	LE	LE
<i>Pegias fabula</i>	Little-winged pearlymussel	G1	S1	LE	LE
<i>Plethobasus cyphus</i>	Sheepnose	G3	S1	LE	LE
<i>Pleurobema collina</i>	James spinymussel	G1	S1	LE	LE
<i>Pleurobema plenum</i>	Rough pigtoe	G1	SH	LE	LE
<i>Pleurobema dolabellodes</i>	Slabside pearlymussel	G2	S2	LE	LE
<i>Ptychobranhus subtentum</i>	Fluted Kidneyshell	G2	S2	LE	LE
<i>Quadrula cylindrica strigillata</i>	Rough rabbits foot	G3G4T2	S2	LE	LE
<i>Quadrula intermedia</i>	Cumberland monkeyface	G1	S1	LE	LE
<i>Quadrula sparsa</i>	Appalachian monkeyface	G1	S1	LE	LE
<i>Villosa perpurpurea</i>	Purple bean	G1	S1	LE	LE
CRUSTACEA (AMPHIPODS, ISOPODS & DECAPODS)					
<i>Antrolana lira</i>	Madison Cave isopod	G2G4	S2	LT	LT
<i>Lirceus usdagalun</i>	Lee County cave isopod	G2G3	S1	LE	LE
ARACHNIDA (SPIDERS, PSEUDOSCORPIONS & RELATIVES)					
<i>Microhexura montivaga</i>	Spruce-fir moss spider	G1	S1	LE	LE
INSECTA (INSECTS)					
Beetles					
<i>Cicindela dorsalis dorsalis</i> = <i>Habroscelimorpha dorsalis dorsalis</i>	Northeastern beach tiger beetle	G4T2	S2	LT	LT
<i>Nicrophorus americanus</i>	American burying beetle	G2G3	SH	LE	
Butterflies					
<i>Neonympha mitchellii</i>	Mitchell's satyr	G2	S1	LE	LE

*Virginia populations were recently described as a new subspecies, *Epioblasma florentina aureola* (golden riffleshell).

APPENDIX 3. EXTINCT AND EXTIRPATED ANIMALS OF VIRGINIA

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	FEDERAL STATUS	STATE STATUS
VERTEBRATES					
FISH					
<i>Moxostoma lacerum</i> = <i>Lagochila lacerum</i>	Harelip sucker	GX	SX		
<i>Percina bimaculata</i>	Chesapeake darter	G1G2	SX		
<i>Percina maculata</i>	Blackside darter	G5	SX		
<i>Percopsis omiscomaycus</i>	Trout-perch	G5	SX		
BIRDS					
<i>Conuropsis carolinensis</i>	Carolina parakeet	GX	SX		
<i>Ectopistes migratorius</i>	Passenger pigeon	GX	SX		
<i>Vermivora bachmanii</i>	Bachman's warbler	GH	SX	LE	LE
MAMMALS					
<i>Bos bison</i> = <i>Bison bison</i>	American bison	G4	SX		
<i>Canis lupus</i> = <i>Canis lycaon</i>	Gray (= eastern timber) wolf	G4G5	SX	LE	LE
<i>Canis rufus</i>	Red wolf	G1Q	SX	LE	
<i>Cervus elaphus</i> = <i>Cervus canadensis</i>	Wapiti or elk	G5	SX*		
<i>Puma concolor cougar</i> = <i>Felis concolor cougar</i>	Eastern cougar (= mountain lion, puma)	G5THQ	SX	LE	LE
INVERTEBRATES					
BIVALVIA (MUSSELS)					
<i>Epioblasma haysiana</i>	Acornshell	GX	SX		
<i>Epioblasma lenior</i>	Narrow catspaw	GX	SX		
<i>Epioblasma torulosa gubernaculum</i>	Green-blossom pearlymussel	G2TX	SX	LE	LE
<i>Lampsilis abrupta</i>	Pink mucket	G2	SX	LE	LE
<i>Villosa fabalis</i>	Rayed bean	G2	SX	LE	LE
<i>Villosa trabalis</i>	Cumberland bean	G1	SX	LE	LE
INSECTS					
<i>Phyciodes batesii batesii</i>	Tawny crescent	G4T1	SX		

*The last record of a native elk in Virginia was from 1855. Small numbers of reintroduced elk from eastern Kentucky have moved into far southwestern Virginia in recent years and are currently considered a game species by the Virginia Department of Game and Inland Fisheries, which has initiated a reintroduction program in that portion of the state.

APPENDIX 4. LIST OF SYNONYMS

Synonym	Name used in lists above	Common name	Page
<i>Acipenser oxyrhynchus</i>	<i>Acipenser oxyrinchus</i>	Atlantic sturgeon	10
<i>Acontia delecta</i>	<i>Tarache delecta</i>	Delightful Bird-dropping moth	48
<i>Aeshna mutata</i>	<i>Rhionaeschna mutata</i>	Spatterdock damer	23
<i>Aimophila aestivalis</i>	<i>Peucaea aestivalis</i>	Bachman's Sparrow	14
<i>Alasmidonta minor</i>	<i>Alasmidonta viridis</i>	Slippershell mussel	17
<i>Anacamptodes pergracilis</i>	<i>Iridopsis pergracilis</i>	A geometrid moth	39
<i>Anculosa subglobosa</i>	<i>Leptoxis praerosa</i>	Onyx rocksnail	34
<i>Anguispira alternata jessica</i>	<i>Anguispira jessica</i>	Mountain disc	16
<i>Anthobia mammouthia</i>	<i>Anthobia monmouthia</i>	A cave spider	18
<i>Apamea finitima</i>	<i>Apamea sordens</i>	Bordered Apamea moth	38
<i>Archanara subflava</i>	<i>Capsula subflava</i>	A sedge borer moth	38
<i>Arugisa watsoni</i>	<i>Arugisa latiorella</i>	A noctuid moth	38
<i>Balaena glacialis</i>	<i>Eubalaena glacialis</i>	Northern right whale	49
<i>Bellura melanopyga</i>	<i>Bellura vulnifica</i>	A wetland borer moth	48
<i>Bison bison</i>	<i>Bos bison</i>	Bison	51
<i>Bombus ashtoni</i>	<i>Bombus bohemicus</i>	Ashton cuckoo bumble bee	48
<i>Bomolocha sordidula</i>	<i>Hypena sordidula</i>	Sordid Hypena moth	39
<i>Brachoria falcifera</i>	<i>Appalachioria falcifera</i>	Big Cedar Creek millipede	20
<i>Brachoria separanda hamata</i>	<i>Appalachioria separanda hamata</i>	A millipede	20
<i>Brachoria separanda versicolor</i>	<i>Appalachioria separanda versicolor</i>	A millipede	20
<i>Brachoria turneri</i>	<i>Appalachioria turneri</i>	Turner's millipede	20
<i>Bufo quercicus</i>	<i>Anaxyrus quercicus</i>	Oak toad	12
<i>Cambarus veteranus</i> (in part)	<i>Cambarus callainus</i>	Big Sandy Crayfish	20
<i>Canis lycaon</i>	<i>Canis lupus</i>	Gray wolf	51
<i>Carpodacus purpureus</i>	<i>Haemorhous purpureus</i>	Purple Finch	13
<i>Carunculina glans</i>	<i>Toxolasma lividus</i>	Purple liliput	18
<i>Carunculina lividus</i>	<i>Toxolasma lividus</i>	Purple liliput	18
<i>Casmerodius albus</i>	<i>Ardea alba</i>	Great Egret	13
<i>Celastrina ebenina</i>	<i>Celastrina nigra</i>	Dusky azure	38
<i>Celastrina ladon lucia</i>	<i>Celastrina lucia</i>	Northern spring azure	47
<i>Cervus canadensis</i>	<i>Cervus elaphus</i>	Wapiti or elk	51
<i>Clemmys insculpta</i>	<i>Glyptemys insculpta</i>	Wood turtle	12
<i>Clemmys muhlenbergii</i>	<i>Glyptemys muhlenbergii</i>	Bog turtle	12
<i>Conradilla caelata</i>	<i>Lemiox rimosus</i>	Birdwing pearlymussel	17
<i>Cottus baileyi</i>	<i>Uranidea baileyi</i>	Black sculpin	11
<i>Cottus cognatus</i>	<i>Uranidea cognata</i>	Slimy sculpin	11
<i>Cottus kanawhae</i>	<i>Uranidea kanawhae</i>	Kanawha sculpin	32
<i>Cottus</i> sp. 1	<i>Uranidea</i> sp. 1	Bluestone sculpin	11
<i>Cottus</i> sp. 4	<i>Uranidea</i> sp. 4	Clinch sculpin	11
<i>Cottus</i> sp. 5	<i>Uranidea</i> sp. 5	Holston sculpin	11
<i>Cyprinella monacha</i>	<i>Erimonax monachus</i>	Spotfin chub (= turquoise shiner)	10
<i>Cyprogenia irrorata</i>	<i>Cyprogenia stegaria</i>	Fanshell	17
<i>Deciduphagus irus</i>	<i>Callophrys irus</i>	Frosted elfin	27
<i>Deciduphagus polios</i>	<i>Callophrys polios</i>	Hoary elfin	27
<i>Dendroica cerulea</i>	<i>Setophaga cerulea</i>	Cerulean Warbler	33
<i>Dendroica fusca</i>	<i>Setophaga fusca</i>	Blackburnian Warbler	14
<i>Dendroica kirtlandii</i>	<i>Setophaga kirtlandii</i>	Kirtland's Warbler	49
<i>Dendroica magnolia</i>	<i>Setophaga magnolia</i>	Magnolia Warbler	14
<i>Dendroica virens waynei</i>	<i>Setophaga virens waynei</i>	Wayne's Black-throated Green Warbler	14
<i>Dixioria coronata</i>	<i>Dixioria pela coronata</i>	A millipede	19
<i>Ellipsoptera gratiosa</i>	<i>Cicindela gratiosa</i>	Whitish tiger beetle	25
<i>Ellipsoptera lepida</i>	<i>Cicindela lepida</i>	Ghost tiger beetle	25
<i>Enallagma cyathigerum</i> (in part)	<i>Enallagma annexum</i>	Northern bluet	22
<i>Ephemerella berneri</i>	<i>Tsalia berneri</i>	Berner's Ephemerella mayfly	22
<i>Epioblasma florentina walkeri</i> (in part)	<i>Epioblasma florentina aureola</i>	Golden riffleshell	17
<i>Erythroecia hebardi</i>	<i>Psectrotarsia hebardi</i>	Hebard's noctuid moth	29
<i>Etheostoma clarum</i>	<i>Ammocrypta clara</i>	Western sand darter	10

APPENDIX 4 (continued)

Synonym	Name used in lists above	Common name	Page
<i>Etheostoma stigmaeum jessiae</i>	<i>Etheostoma jessiae</i>	Blueside darter	10
<i>Etheostoma stigmaeum meadiae</i>	<i>Etheostoma meadiae</i>	Bluespar darter	10
<i>Etheostoma tippecanoe</i> (in part)	<i>Etheostoma denoncourti</i>	Golden darter	10
<i>Eumeces anthracinus</i>	<i>Plestiodon anthracinus</i>	Coal skink	32
<i>Eutolype grandis</i>	<i>Psaphida grandis</i>	Gray sallow	43
<i>Fallicambarus uhleri</i>	<i>Fallicambarus fodiens</i>	A crayfish	35
<i>Faronta rubripennis</i>	<i>Dargida rubripennis</i>	Pink-streak moth	28
<i>Felis concolor cougar</i>	<i>Puma concolor cougar</i>	Eastern cougar	15
<i>Fixsenia favonius ontario</i>	<i>Satyrium favonius ontario</i>	Northern oak hairstreak	38
<i>Foveacheles paralleloseta</i>	<i>Traegardia paralleloseta</i>	A cave mite	18
<i>Fusconaia barnesiana</i>	<i>Pleuroaia barnesiana</i>	Tennessee pigtoe	17
<i>Fusconaia edgariana</i>	<i>Fusconaia cor</i>	Shiny pigtoe	17
<i>Gallinula chloropus</i> (in part)	<i>Gallinula galeata</i>	Common Gallinule	13
<i>Gastrocopta armifera clappi</i>	<i>Gastrocopta clappi</i>	Bluegrass snaggletooth	42
<i>Gastrocopta interna fonticula</i>	<i>Gastrodonta fonticula</i>	Appalachia bellytooth	42
<i>Gomphus brevis</i>	<i>Gomphus adelphus</i>	Moustached clubtail	23
<i>Goniobasis arachnoidea</i>	<i>Elimia arachnoidea</i>	Spider Elimia	16
<i>Graphisurus triangulifer</i>	<i>Urographis triangulifer</i>	A longhorn beetle	46
<i>Habrosclimorpha dorsalis dorsalis</i>	<i>Cicindela dorsalis dorsalis</i>	Northeastern beach tiger beetle	25
<i>Habrosclimorpha dorsalis media</i>	<i>Cicindela dorsalis media</i>	White tiger beetle	36
<i>Heterocloeon anoka</i>	<i>Iswaeon anoka</i>	A mayfly	44
<i>Heterocloeon rubrolaterale</i>	<i>Iswaeon rubrolaterale</i>	A mayfly	22
<i>Holomelina ferruginosa</i>	<i>Virbia ferruginosa</i>	Rusty tiger moth	48
<i>Holomelina immaculata</i>	<i>Virbia immaculata</i>	Immaculate tiger moth	48
<i>Homohadena badistriga</i>	<i>Sympistis badistriga</i>	Brown-lined sallow moth	48
<i>Hybopsis cahni</i>	<i>Erimystax cahni</i>	Slender chub	10
<i>Hybopsis dissimilis</i>	<i>Erimystax dissimilis</i>	Streamline chub	32
<i>Hybopsis insignis</i>	<i>Erimystax insignis</i>	Blotched chub	32
<i>Hybopsis labrosa</i>	<i>Cyprinella labrosa</i>	Thicklip chub	10
<i>Hybopsis monacha</i>	<i>Erimonax monachus</i>	Spotfin chub (= turquoise shiner)	10
<i>Incisalia irus</i>	<i>Callophrys irus</i>	Frosted elfin	27
<i>Incisalia polios</i>	<i>Callophrys polios</i>	Hoary elfin	27
<i>Itame abruptata</i>	<i>Speranza abruptata</i>	A geometrid moth	40
<i>Itame evagaria</i>	<i>Speranza evagaria</i>	A geometrid moth	40
<i>Itame exauspicata</i>	<i>Speranza exauspicata</i>	A geometrid moth	40
<i>Itame ribearia</i>	<i>Speranza ribearia</i>	Currant spanworm moth	29
<i>Itame subcessaria</i>	<i>Speranza subcessaria</i>	Barred Itame moth	40
<i>Lagochila lacera</i>	<i>Moxostoma lacerum</i>	Harelip sucker	51
<i>Lampropeltis getula nigra</i>	<i>Lampropeltis nigra</i>	Eastern black kingsnake	12
<i>Lampropeltis triangulum elapsoides</i>	<i>Lampropeltis elapsoides</i>	Scarlet kingsnake	42
<i>Lampsilis orbiculata</i>	<i>Lampsilis abrupta</i>	Pink mucket	17
<i>Lastena lata</i>	<i>Hemistena lata</i>	Cracking pearlymussel	17
<i>Lepipolys perscripta</i>	<i>Sympistis perscripta</i>	Scribbled sallow moth	29
<i>Leurognathus marmoratus</i>	<i>Desmognathus marmoratus</i>	Shovel-nosed salamander	12
<i>Lexingtonia dolabelloides</i>	<i>Pleuroaia dolabelloides</i>	Slabside pearlymussel	17
<i>Lexingtonia subplana</i>	<i>Fusconaia masoni</i>	Atlantic pigtoe	17
<i>Libellula exusta</i>	<i>Ladona exusta</i>	White corporal skimmer	23
<i>Libellula julia</i>	<i>Ladona julia</i>	Chalk-fronted corporal skimmer	23
<i>Ligumia ochracea</i>	<i>Leptodea ochracea</i>	Tidewater mucket	34
<i>Ligumia recta latissima</i>	<i>Ligumia recta</i>	Black sandshell	17
<i>Limnaeus ocularis</i>	<i>Pseudacris ocularis</i>	Little grass frog	32
<i>Liochlorophis vernalis</i>	<i>Opheodrys vernalis</i>	Smooth greensnake	32
<i>Lithacodia albidula</i>	<i>Protodeltote albidula</i>	A noctuid moth	40
<i>Lithobates virgatipes</i>	<i>Rana virgatipes</i>	Carpenter frog	34
<i>Lithophane lepida adipel</i>	<i>Lithophane adipel</i>	A pinion moth	29
<i>Loxagrotis apicalis</i>	<i>Dichagyris grotei</i>	A noctuid moth	28
<i>Lutra canadensis</i>	<i>Lontra canadensis</i>	River otter	33
<i>Merolonche dolli</i>	<i>Acronicta dolli</i>	Doll's dagger moth	28

APPENDIX 4 (continued)

Synonym	Name used in lists above	Common name	Page
<i>Mesodon christyi</i>	<i>Fumonelix christyi</i>	Glossy covert	42
<i>Mesodon clingmanicus</i>	<i>Fumonelix wheatleyi clingmanicus</i>	Clingman covert	16
<i>Mesodon kalmianus</i>	<i>Inflectarius kalmianus</i>	Brown globelet	42
<i>Mesodon panselenus</i>	<i>Patera panselenus</i>	Virginia bladetooth	34
<i>Microcreagris valentinei</i>	<i>Lissocreagris valentinei</i>	Valentine's cave pseudoscorpion	18
<i>Mitoura hesseli</i>	<i>Callophrys hesseli</i>	Hessel's hairstreak	27
<i>Moxostoma ariommmum</i>	<i>Scartomyzon ariommmus</i>	Bigeye jumprock	34
<i>Moxostoma hamiltoni</i>	<i>Thoburnia hamiltoni</i>	Rustyside sucker	11
<i>Neadysgonia telma</i>	<i>Gondysia telma</i>	Telma darkwing moth	28
<i>Neonympha areolatus septentrionalis</i>	<i>Neonympha helicta</i>	Helicta satyr	27
<i>Notropis hypsinotus</i>	<i>Hybopsis hypsinotus</i>	Highback chub	10
<i>Notropis lirus</i>	<i>Lythrurus lirus</i>	Mountain shiner	10
<i>Notropis whipplei</i>	<i>Cyprinella whipplei</i>	Steelcolor shiner	10
<i>Nuttallornis borealis</i>	<i>Contopus cooperi</i>	Olive-sided Flycatcher	13
<i>Nycticorax violaceus</i>	<i>Nyctanassa violacea</i>	Yellow-crowned Night-heron	14
<i>Odontonyx trivittis</i>	<i>Paralichas trivittis</i>	A beetle	46
<i>Oligia crytora</i>	<i>Neoligia crytora</i>	A noctuid moth	39
<i>Oligia exhausta</i>	<i>Neoligia exhausta</i>	A noctuid moth	39
<i>Ophiogomphus alleghaniensis</i>	<i>Ophiogomphus incurvatus alleghaniensis</i>	Allegheny snaketail	23
<i>Oporornis philadelphia</i>	<i>Geothlypis philadelphia</i>	Mourning Warbler	13
<i>Percina macrocephala</i>	<i>Percina williamsi</i>	Sickle darter	11
<i>Phoxinus cumberlandensis</i>	<i>Chrosomus cumberlandensis</i>	Blackside dace	10
<i>Phoxinus tennesseeensis</i>	<i>Chrosomus tennesseeensis</i>	Tennessee dace	10
<i>Phyciodes pascoensis</i>	<i>Phyciodes cocyta</i>	Northern crescent	27
<i>Phyciodes selenis</i>	<i>Phyciodes cocyta</i>	Northern crescent	27
<i>Physeter catodon</i>	<i>Physeter macrocephalus</i>	Sperm whale	49
<i>Pipistrellus subflavus</i>	<i>Perimyotis subflavus</i>	Tricolored bat	15
<i>Plauditus rubrolateralis</i>	<i>Iswaeon rubrolaterale</i>	A mayfly	22
<i>Plecotus rafinesquii macrotis</i>	<i>Corynorhinus rafinesquii macrotis</i>	Eastern big-eared bat	15
<i>Plecotus townsendii virginianus</i>	<i>Corynorhinus townsendii virginianus</i>	Virginia big-eared bat	15
<i>Pleurobema maculatum</i>	<i>Pleurobema oviforme</i>	Tennessee clubshell	17
<i>Pleurobema pyramidatum</i>	<i>Pleurobema rubrum</i>	Pyramid pigtoe	17
<i>Pleurocera catenaria</i>	<i>Elimia catenaria</i>	Gravel Elimia	35
<i>Polygyra plicata</i>	<i>Millerelix plicata</i>	Cumberland liptooth	16
<i>Polygyra pustuloides</i>	<i>Lobosculum pustuloides</i>	Tiny Liptooth	42
<i>Polyzonium rosalbum</i>	<i>Petaserpes rosalbum</i>	A millipede	44
<i>Pterourus appalachiensis</i>	<i>Papilio appalachiensis</i>	Appalachian tiger swallowtail	47
<i>Pyrgus wyandot</i>	<i>Pyrgus centaureae wyandot</i>	Appalachian grizzled skipper	27
<i>Rana kauffeldi</i>	<i>Lithobates kauffeldi</i>	Atlantic Coast leopard frog	42
<i>Rana virgatipes</i>	<i>Lithobates virgatipes</i>	Carpenter frog	32
<i>Rhodoecia aurantiago</i>	<i>Pyrrhia aurantiago</i>	Aureolaria seed borer moth	29
<i>Richia grotei</i>	<i>Dichagyris grotei</i>	A noctuid moth	28
<i>Scartomyzon ariommmus</i>	<i>Moxostoma ariommmum</i>	Bigeye jumprock	32
<i>Schinia inclara</i>	<i>Schinia siren</i>	A flower moth	29
<i>Seiurus noveboracensis</i>	<i>Parkesia noveboracensis</i>	Northern Waterthrush	14
<i>Semiothisa distribuaria</i>	<i>Macaria distribuaria</i>	A geometrid moth	29
<i>Semotilus margarita</i>	<i>Margariscus margarita</i>	Pearl dace	32
<i>Sphaeroderus nitidicollis schaumii</i>	<i>Sphaeroderus schaumii</i>	Schaum's false snail-eating beetle	26
<i>Sphinx eremitus</i>	<i>Lintneria eremitus</i>	Hermit sphinx	39
<i>Stenotrema leai alicia</i>	<i>Euchemotrema leai</i>	Lowland pillsnail	42
<i>Sterna antillarum</i>	<i>Sternula antillarum</i>	Least Tern	14
<i>Sterna caspia</i>	<i>Hydroprogne caspia</i>	Caspian Tern	13
<i>Sterna maxima</i>	<i>Thalasseus maximus</i>	Royal Tern	14
<i>Sterna nilotica</i>	<i>Gelochelidon nilotica</i>	Gull-billed Tern	13
<i>Sterna sandvicensis</i>	<i>Thalasseus sandvicensis</i>	Sandwich Tern	14
<i>Stizostedion canadense</i>	<i>Sander canadensis</i>	Sauger	11
<i>Sylvilagus transitionalis</i>	<i>Sylvilagus obscurus</i>	Appalachian cottontail	33

APPENDIX 4 (continued)

Synonym	Name used in lists above	Common name	Page
<i>Sympetrum janeae</i>	<i>Sympetrum internum</i>	Cherry-faced meadowhawk	44
<i>Tetracha carolina</i>	<i>Megacephala carolina</i>	Carolina big-headed tiger beetle	37
<i>Tetragoneuria canis</i>	<i>Epitheca canis</i>	Beaverpond baskettail	23
<i>Tetragoneuria costalis</i>	<i>Epitheca costalis</i>	Stripe-winged baskettail	44
<i>Tetragoneuria semiaquea</i>	<i>Epitheca semiaquea</i>	Mantled baskettail	23
<i>Tetragoneuria spinosa</i>	<i>Epitheca spinosa</i>	Robust baskettail	36
<i>Thalpius pygmaeus</i>	<i>Pseudaptinus pygmaeus</i>	A ground beetle	46
<i>Tischeria perplexa</i>	<i>Coptotriche perplexa</i>	Chestnut leaf-mining moth	28
<i>Trichopetalum packardi</i>	<i>Zygonopus packardi</i>	Packard's blind cave millipede	35
<i>Trichopetalum weyeriense</i>	<i>Zygonopus weyeriense</i>	Grand Caverns blind cave millipede	21
<i>Trichopetalum whitei</i>	<i>Zygonopus whitei</i>	Luray Caverns blind cave millipede	21
<i>Trionyx spiniferus</i>	<i>Apalone spinifera</i>	Spiny softshell	12
<i>Tritogonia verrucosa</i>	<i>Quadrula verrucosa</i>	Pistolgrip	18
<i>Troglodytes troglodytes</i> (in part)	<i>Troglodytes hiemalis</i>	Winter Wren	14
<i>Vermivora pinus</i>	<i>Vermivora cyanoptera</i>	Blue-winged Warbler	33
<i>Vermivora ruficapilla</i>	<i>Oreothlypis ruficapilla</i>	Nashville Warbler	14
<i>Wilsonia canadensis</i>	<i>Cardellina canadensis</i>	Canada Warbler	33
<i>Wyeomyia haynei</i>	<i>Wyeomyia smythii</i>	Pitcher plant mosquito	30
<i>Xestia tenuicula</i>	<i>Pseudohermonassa tenuicula</i>	A dart moth	40
<i>Zanclognatha gypsalis</i>	<i>Zanclognatha theralis</i>	A noctuid moth	48

APPENDIX 5. RARE SPECIES SIGHTING FORM

Virginia Department of Conservation and Recreation, Division of Natural Heritage
600 E. Main Street, Richmond, Virginia 23219
(804) 786-7951

An important component of the natural heritage inventory and protection process involves gathering information from state experts, professionals, and avocational naturalists throughout the state. To facilitate this, the Division of Natural Heritage has developed this rare species sighting form. If you would like to participate in our inventory and protection activities, please take a few moments to complete the attached form for any species from our rare species list. These data will be evaluated for incorporation into the natural heritage database and used exclusively for the protection of the rare species and its habitat. Please send the form to the staff zoologist at the address above. Thank you for your support. The Division of Natural Heritage can only realize the protection of the Commonwealth's natural diversity by working through a network of knowledgeable and concerned individuals.

SPECIES OBSERVED:

DATE OBSERVED:

COUNTY:

USGS QUADRANGLE MAP NAME (if known; mark location on a photocopy of the appropriate map and submit with this form):

LOCATION (Provide a detailed description, including directions from nearest town, road intersection, etc.):

HABITAT DESCRIPTION (Include associated species, elevation, natural features, natural community type, etc.):

POPULATION DATA (Number of individuals observed, age, size, evidence of reproduction, etc.):

LANDOWNER (If know, provide name, address, and phone number):

THREATS TO SPECIES OR EVIDENCE OF HABITAT DISTURBANCE:

REPORTED BY (Include name, address, and phone number):

DATE OF REPORT: