ADDITIONS TO THE FLORA OF WASHINGTON
AND VICINITY, FROM APRIL 1, 1884,
TO APRIL 1, 1886.

By F. H. KNOWLTON, B. S.

[The following notes are supplementary to Ward's "Guide to the Flora of Washington and Vicinity" (Bulletin No. 22, U. S. National Museum). The species added to the Flora between April 1, 1884, and April 1, 1885, were enumerated by Prof. Ward in a paper read before the Society Dec. 13, 1884; the additions and changes for 1885 were presented by the author in a paper read March 20, 1886. The first collector of each species is given due credit in the proper place.]

ANALYSIS.

I. List of Vascular Plants added to the Flora from April 1, 1884, to April 1, 1886. .... p. 106
II. Revision of the Musci and Hepaticæ of Washington and Vicinity. p. 110
III. List of the Lichens of Washington and Vicinity. .... p. 118
IV. Changes in Nomenclature. .... p. 127
V. New Localities for Rare Species. .... p. 129
VI. Species Excluded. .... p. 132

I. LIST OF VASCULAR PLANTS ADDED TO THE FLORA OF WASHINGTON FROM APRIL 1, 1884, TO APRIL 1, 1886.

11a. Trautvetteria palmata, Fischer & Meyer.
    Great Falls, Virginia side. Mr. J. S. Barker, June 22, 1884.
    Also found on the Mt. Vernon estate by Mr. William Hunter, June 21, 1885.

22a. Caltha palustris, L. MARSH MARIGOLD.
    Rock Creek. Collected by Mr. Gerald McCarthy in 1884.

99a. Polygala Curtissii, Gray, var. pycnostachya, Gray.
    Collected south of Arlington P. O., near Four Mile Run, June 29 and July 30, 1884, and on the Marlboro' road, August 3, 1884, by Prof. Ward. Specimens of this plant have been sent to Dr. Asa Gray, who states that he considers this form to be the type, and that the original specimens col-
lected by Curtiss were abnormal. Until an authoritative revision of the genus is made, however, it must stand as above.

195a. Trifolium hybridum, Savi.
Alexander's Island, June 25, 1885, by Mr. J. A. Allen.

295a. Ribes floridum, L'Her. WILD BLACK CURRANT.
Blagden's Mill, at the head of the mill-race on the creek side, April 27, 1884. Prof. Ward.

297a. Sedum Telephium, L.
Found near Woodlawn (Mt. Vernon) July 25, 1885, by Mr. Wm. Hunter.

351a. Aralia quinquefolia, Deesne & Planch.
Collected by the late Dr. A. C. Schott in the vicinity of Rockville, Md., nearly twenty-five years ago. The specimens have, unfortunately, all been sent to Scotland and none since collected.

390a. Eupatorium purpureum, L., var. amœnum, Gray.
Rock Creek, Sept. 17, 1882. Mentioned as a form in the "Flora" by Prof. Ward.

391a. Eupatorium hyssopifolium, L., var. laciniatum, Gray.

436a. Aster ericoides, L., var. villosus, Torr & Gray.
Near upper end of Lobelia Run, Sept. 17, 1882. Prof. Ward.

462a. Inula Helenium, L. ELECAMPANE.
Found on the Mount Vernon estate, one mile west of the Mansion, by Mr. William Hunter, who states that it has been established there for thirty years.

494a. Bidens connata, Muhl. SWAMP BEGGAR-TICKS.
Holmead Swamp, September 22, 1878. Placed in the herbarium under the name of Bidens cernua, L., and only recently detected. Prof. Ward.

502a. Artemisia vulgaris, L. MUGWORT.
Collected at the mouth of Pope's Head Creek, near Clifton Station, Fairfax county, Va., October 9, 1884, by Prof. Ward.

Left bank of Bladensburg mill-race below second foot bridge, 200 yards above sluice gate. In flower July 27, 1884, in fruit August 24, 1884. Prof. Ward.

585a. Apocynum androsaemifolium, L.

Collected near Woodlawn, Fairfax county, Va., August, 1885, by Mr. Wm. Hunter.


In a ravine containing a cataract which was christened "Hydrophyllum Run," nearly opposite Eads' Mill, Va., July 6, 1884, then a little past flowering time. Prof. Ward. Fine flowering specimens collected June 21, 1885.

620a. Borago officinalis, L.

Foundry Run, June 23, 1885. Mr. A. L. Schott.

675a. Gerardia auriculata, Michx.

Below Alexandria, Va., Sept. 9, 1885. Mr. Wm. Hunter.

825a. Comptonia asplenifolia, Ait. Sweet Fern.

Between the Reform School and Highlands, Md., on an abandoned earthwork, June 22, 1884, by Prof. Ward.

826a. Betula lenta, L. Cherry, Sweet, or Black Birch.

Found by Dr. G. W. Hill at the mouth of Difficult Run, Va., May 11, 1884. Dr. Hill states that he could find no full-grown trees, and none bearing fruit or flowers. Mr. Wm. Hunter reports this species from Clifton Station, Va., also as a mere shrub.

The following remarkable forms of Quercus, supposed to be of hybrid origin, are deserving of special mention in the catalogue. Most of them were described by Dr. George Vasey in an article published in the "Bulletin of the Torrey Botanical Club" for March, 1883, with figures (plates xxviii–xxx). Their principal peculiarities were further pointed out in a paper by Prof. Ward, read before this Society April 13, 1883.

The names given below are based on the assumption that they are hybrids, the one standing first being that of the species supposed to predominate in the hybridism.

831a. Quercus alba × obtusiloba.

Discovered by Dr. Vasey near Silver Spring, Maryland, September 20, 1882.
831b. Quercus alba × Prinus.
On the Rockville Road a few rods north of Woodley Park Road. Discovered October 22, 1882, by Prof. Ward. A large tree standing just inside the fence on the west side of the road.

832a. Quercus obtusiloba × alba.
Discovered by Dr. Vasey by the roadside near Piney Branch, September 20, 1882.

836a. Quercus Prinus × alba. Saul's Oak.
Pointed out to Dr. Vasey by Mr. John Saul in his nursery, just back of his residence, September 20, 1882.

890a. Potamogeton crispus, L.
Near mouth of Gravelly Run, Va., October 26, 1884. The specimens seen were all without fruit. Prof. Ward and the author.

924a. Allium sativum, L. English Garlic.
Georgetown College grounds, July 22, 1882. Prof. Ward. In addition to this locality he found it below the Insane Asylum, June, 1884.

1093a. Carex utriculata, Boott.
Eastern Branch Marsh, June 8, 1879. These specimens were confounded with those of C. riparia from the same locality, and under that name sent to Mr. Walter Deane, of Cambridge, who pointed out the error.

Monument Grounds, Sept. 12, 1885. Prof. Ward.

1103a. Agrostis canina, L.

1125a. Eatonia obtusata, Gray.
Collected by Dr. George Vasey, June, 1884.

1153a. Bromus tectorum, L.
Kendall Green, July, 1885. Prof. F. Lampson Scribner.

1172a. Phalaris arundinacea, L.
Collected on the Seventh street road by Dr. Geo. Vasey, June, 1884.
1295a. Taxodium distichum, Richard.
Marshall Hall, Md., Sept. 13, 1885. Collected by Mr. Wm. Palmer and Mr. O. N. Bryan. Mr. Bryan regards these trees as undoubtedly indigenous.

1225a. Asplenium montanum, Willd.
A short distance above Great Falls, Virginia side, Aug. 30, 1885. Mr. Wm. Palmer.

In a ravine (Goldianum Run) on the Virginia side of the Potomac, opposite the Distributing Reservoir, July 6, 1884, by Prof. Ward.

1248a. Lycopodium inundatum, L.
Near the Sarracenia swamp; first detected May 10, 1885. Fruiting specimens collected Sept. 10, 1885. Also found near Woodlawn, Fairfax Co., Va., Oct. 1885, by Wm. Hunter.

1248a. Lycopodium annotininum, L.
Specimen in herb. Mr. Wm. Palmer, said to have been collected by Dr. E. Foreman in Holmead Swamp. Station long since obliterated.

1249a. Lycopodium clavatum, L.
Above Great Falls, Virginia side, Aug. 30, 1885, by Mr. Wm. Palmer. Also Silver Spring, Md., Jan. 2, 1886.

1382a. Nitella megacarpa, Allen.
Eastern Branch, above Benning's Bridge, Sept. 21, 1884. In fine fruiting condition. Identified by Dr. T. F. Allen, of New York.

II. A REVISION OF THE MUSCI AND HEPATICÆ OF WASHINGTON AND VICINITY, WITH NUMEROUS ADDITIONS.

By Rev. E. Lehnert.

[It is with great pleasure that I am able to include in this communication the much-needed revision of our Mosses and Liverworts, which has been so kindly placed at my disposal by Mr. Lehnert. The list given in the "Flora," which was prepared by Mr. Rudolph Oldberg, enumerates 127 species. We are now able to augment that list by the addition of 111 species, of which 88 are Frondosii and 38 Hepaticæ, making a total of 288 species. The nomenclature followed is, for the Frondosii, "The Mosses of North America," by Lesquereux and James, and for the Hepaticæ, the "Descriptive Catalog of Hepaticæ," by Underwood.]
ADDITIONS TO THE FLORA OF WASHINGTON. 111

A. MUSCI FRONDOSI.

Ord. 1. Sphagnaceæ.

Sphagnum cymbifolium, Ehrh.
  " squarrosum, Pers.
  " acutifolium, Ehrh.
  " subsecundum, Nees.
  " intermedium, Hoff.

Ord. 2. Andreæaceæ.

Andreaæa rupestris, Turn.

Ord. 3. Bryaceæ.

a. Acrocarpi.

1. Phasœæ.

Ephemerum crassinervium, Hampe.
  " stenophyllum, Schimp.
  " coherens, Muell.
  " spinulosum, Br. & Sch.
Sphærangium triquetrum, Schimp.
Phascum cuspidatum, Schreb.
Pleuridium subulatum, Br. & Sch.
  " alternifolium, Brid.
  " Sullivantii, Aust.
Archidium Ravenelli, Aust.
Bruchia flexuosa, Muell.
  " brevifolia, Sull.

2. Weisieæ.

Astomum nitidulum, Schimp.
  " Sullivantii, Schimp.
Weisia viridula, Brid.
Trematodon longicollis, Michx.
Dicranella varia, Schimp.
  " heteromalla, Schimp.
Dicranum scoparium, Hedw.
  " majus, Turn.
  " Drummondii, Muell.
  " undulatum. Turn.
3. FISSIDENTEE.
   Fissidens adiantoides, Hedw.
     " taxifolius, Hedw.
     " minutulus, Sull.
     " osmundoides, Hedw.

4. LEUCODRYEE.
   Leucobryum vulgare, Hampe.
     " minus, Sull.

5. CERATODONTEE.
   Ceratodon purpureus, Brid.

6. POTTEEE.
   Pottia truncata, Fuern.
   Leptotrichium tortile, Muell.
     " vaginana, Lesq. & James.
     " pallidum, Hampe.
     " glaucescens, Hampe.
   Barbula unguiculata, Hedw.
     " marginata, Br. & Sch.
     " caespitosa, Schwg.
     " convoluta, Hedw.
     " muralis, Timm.

7. GRIMMIEEE.
   Grimmia apocarpa, Hedw.
     " Pennsylvanica, Schwg.
     " Olneyi, Sull.
     " conferta, Funck.
   Racemitrium fasciculare, Brid.
   Hedwigia ciliata, Ehrh.

8. ORTHOTRICHEE.
   Ptychomitrium Drummondii, Sull.
     " incurvum, Sull.
   Drummondia clavellata, Hook.
   Ulota crispa, Brid.
     " crispula, Brid.
     " Huthinsiae, Schimp.
   Orthotrichum canadense, Br. & Sch.
     " obtusifolium, Schrad.
     " exiguum, Sull.
Orthotrichum strangulatum, Beauv.
  " Ohioense, Sull. & Lesq.
  " cupulatum, Hoff.
  " psilocarpum, James.

9. TETRAPHIDEE.

Tetraphis pellucida, Hedw.

10. PHYSCOMITRIEE.

Physcomitrium pyriforme, Brid.
  " Hookeri, Hampe.
Funaria hygrometrica, Sibth.
  " flavicans, Michx.
  " calvescens, Schwg.

11. BARTRAMIE.

Philonotis Muhlenbergii, Brid.
  " fontana, Brid.
Bartramia pomiformis, Hedw.
  " radicalis, Beauv.

12. BRYEE.

Leptobryum pyriforme, Schimp.
Webera albicans, Schimp.
Bryum argenteum, L.
  " caespiticium, L.
  " capillare, L.
  " pseudotriquetrum, Schwg.
Rhodobryum roseum, Schrb.
Mnium stellare, Reich.
  " hornum, L.
  " Drummondii, Br. & Sch.
  " punctatum, Hedw.
  " cuspidatum, Hedw.
  " affine, Bland.

13. AULACOMNIE.

Aulacomnium palustre, Schwgr.
  " heterostichum, Br. & Sch.

14. POLYTRICHEE.

Atrichum angustatum, Beauv.
  " undulatum, Beauv.
  " crispum, James.
BIOLOGICAL SOCIETY OF WASHINGTON.

Pogonatum brevicaule, Brid.
" umigerum, Brid.
Polytrichum commune, L.
" juniperinum, Willd.
" perigoniale, Michx.
" formosum, Hedw.
" piliferum, Schreb.

15. BUXBAUMIEÆ.
Diphysciurn foliosum, Mohr.
Buxbaumia aphylla, L.

b. CLADOCARPÆ.
16. FONTINALEÆ.
Fontinalis biformis, Sull.
Dichelyma subulatum, Myrin.
" capillaceum, Br. & Sch.

c. Pleurocarpi.
17. NEKEREÆ.
Crypta glomerata, Br. & Sch.
Neckera pennata, Hedw.
Leptodon trichomitrium, Mohr.

18. LEUCODONTIÆ.
Leucodon julaceus, Sull.
" brachypus, Sull.
Clasmatodon parvulus, Sull.

19. LESKEÆ.
Thelia hirtella, Sull.
" asprella, Sull.
" Lescurii, Sull.
Leskea obscura, Hedw.
" polycarpa, Ehrh.
" denticulata, Sull.
" tristis, Cesat.
Anomodon rostratus, Schimp.
" attenuatus, Hüb.
" obtusifolius, Br. & Sch.

20. ORTHOTHECIÆ.
Platygyrium repens, Br. & Sch.
Pylaisia intricata, Br. & Sch.
" velutina, Br. & Sch.
ADDITIONS TO THE FLORA OF WASHINGTON. 115

Homalotheceum subcapillatum, Sull.
Cylindrothecium cladorrizans, Schimp.
  " seductrix, Sull.
  " Drummondii, Br. & Sch.
  " compressum, Br. & Sch.
Climaciurn Americanum, Brid.

21. HYPNÆ.

Hypnum minutulum, Hedw.
  " scitum, Beauv.
  " recognitum, Hedw.
  " delicatum, Linn.
  " lætum, Brid.
  " acuminatum, Beauv.
  " salebrosum, Hoff.
  " velutinum, L.
  " rutabulum, L.
  " Novæ-Angliæ, Sull & Lesq.
  " rivulare, Bruch.
  " populeum, Hedw.
  " plumosum, Swartz.
  " strigosum, Hoff.
  " Boscii, Schwgr.
  " Sullivantii, Spruce.
  " hians, Hedw.
  " piliferum, Schreb.
  " demissum, Wils.
  " Novæ-Cesareae, Aust.
  " recurvans, Schwgr.
  " deplanatum, Schimp.
  " serrulatum, Hedw.
  " rusciforme, Weis.
  " Alleghaniense, Muell.
  " micrans, Swartz, var. fulvum.
  " denticulatum, L.
  " Sullivantiae, Schimp.
  " sylvaticum, Huds.
  " minutissimum, Sull. & Lesq.
  " serpens, L.
Hypnum radicale, Beauv.
  " orthoclodon, Beauv.
  " riparium, Hedw.
  " vacillans, Sull.
  " hispidulum, Brid.
  " chrysophyllum, Brid.
  " stellatum, Schreb.
  " uncinatum, Hedw.
  " fluitans, L.
  " molluscum, Hedw.
  " imponens, Hedw.
  " cupressiforme, L.
  " curvifolium, Hedw.
  " arcuatum, Ldb.?
  " pratense, Koch.
  " stramineum, Dicks.
  " Schreberi, Willd.
  " splendens, Hedw.
  " Oakesii, Sull.
  " triquetrum, L.

B. MUSCI HEPATICI.

Ord. 1. RICCIACEÆ.
  Riccia lutescens, Schwein.
    " fluitans, L.
    " natans, L.
    " arvensis, Aust.

Ord. 2. ANTHOCEROTACEÆ.
  Anthoceros punctatus, L.
    " lævis, L.
  Notothylas orbicularis, Sull.

Ord. 3. MARCHANTIACEÆ.
  Marchantia polymorpha, L.
  Conocephalus conicus, Dumort.
  Asterella hemisphærica, Beauv.
  Dumortiera hirsuta, Nees.
  Fimbriaria tenella, Nees.
  Lunularia cruciata, Dumort.
Ord. 4. \textit{Jungermanniaceae}.

\begin{itemize}
\item Anura palmata, Nees.
\item Pellia epiphylla, Nees.
\item Blasia pusilla, L.
\item Steetzia Lyellii, Lehm.
\item Metzgeria pubescens, Raddi.
\item \textquotedblleft conjugata; Lindb.
\item Frullania Grayana, Mont.
\item \textquotedblright tamarisci, Nees.
\item \textquotedblright Virginica, Gottsche.
\item \textquotedblright brunnea, Spreng.
\item \textquotedblright Eboracensis, Gottsche.
\item \textquotedblright plana, Sull.
\item Phragmica cucullata? Nees.
\item Lejeunia cyclostipa? Tayl.
\item \textquotedblright calyculata, Tayl.
\item \textquotedblright minutissima, Dumort.
\item Madoxtheca platyphylla, Dumort.
\item \textquotedblright porella, Nees.
\item Radula complanata, Dumort.
\item \textquotedblright tenax, Lindb.
\item \textquotedblright obconica, Sull.
\item Blepharostoma trichophylla, Dumort.
\item Blepharozia ciliaris, Dumort.
\item Trichocolea tomentella, Dumort.
\item Bazzania trilobata, B. Gr.
\item Lepidozia reptans, Dumort.
\item \textquotedblright setacea, Mitt.
\item Calypogeia trichomanis, Corda.
\item \textquotedblright Sullivanti, Aust.
\item Geocalyx graveolens, Nees.
\item Chiloscyphus polyanthos, Corda.
\item Lophocolea bidentata, Dumort.
\item \textquotedblright heterophylla, Nees.
\item \textquotedblright minor, Nees.
\item Odontoschisma sphagni, Dumort.
\item \textquotedblright denudata, Dumort.
\item Cephalozia curvifolia, Dumort.
\item \textquotedblright multiflora, Lindb.
\end{itemize}
BIOLOGICAL SOCIETY OF WASHINGTON.

Jungermania Schraderi, Mart.
Scapania albicans, Mitt. : var. taxifolia, Undw.
  " nemorosa, Nees.
  " compacta, Dumort.; var. irigua, Undw.
Plagiocheila asplenioides, Nees & Mont.
  " spinulosa, Nees & Mont.

III. A LIST OF THE LICHENS OF WASHINGTON AND VICINITY.

By Rev. E. Lehnert.

[This great desideratum, a list of our Lichens, is at last supplied, through the indefatigable labors of Mr. Lehnert, who has also placed it at my disposal.

In a prefatory note accompanying the list, Mr. Lehnert says: "So far as known, the Lichens of the District comprise 251 species, with 89 varieties, a total of 340 forms. In the main our species are not as showy as those from the North or South, but have, when compared with the same species from these localities, a dwarfed and depauperate aspect, caused, possibly, by the dryness of our climate, as we have very warm summers and cold winters.

(According to Tuckerman's Generic Lichenum Emend).

A. GYMNOCARPI.

Trib. 1. Parmeliaceae.

Fam. 1. USNEEL.

Ramalina rigida, Pers.
  " calicaris, Fr.
  "  " var. fraxinea, Fr.
  "  " farinacea, Schar.
  "  " fastigiata, Fr.
  "  " canaliculata, Fr.

Cetraria Fahlunensis, Schar.
  " juniperina, Ach.
  " aleurites, Fr.
  "  " var. placorodia, Tuck.
  " Pendleri, Tuck.
  " lacunosa, Ach.
  " ciliaris, Ach.
  " sæpincola, Ach.
  " Oakesiana, Tuck.

Evernia furfuracea, Mann.
ADDITIONS TO THE FLORA OF WASHINGTON.

Usnea barbata, Fr.
  "  "  var. florida, Fr.
  "  "  hirta, Fr.
  "  "  rubiginia, Michx.
  "  "  dasypoga, Fr.
  "  "  cetatina, Schäer.
  "  "  angulata, Ach.
  "  "  trichodea, Ach.

Alectoria jubata, L.

Fam. 2. PARMELIACE.

Theloschistes chrysophthalmus, Norm.
  "  "  var. flavicans, Wallr.
  "  "  parietinus, Norm.
  "  "  polycarpus, Ehrh.
  "  "  lychneus, Nyl.
  "  "  concolor, Dick.
  "  "  var. effuse, Tuck.

Parmelia perforata, Ach.
  "  "  var. hypotropa, Nyl.
  "  "  crinita, Ach.
  "  "  saxatilia, Fr.
  "  "  physodes, Ach.
  "  "  Borreri, Turn.
  "  "  var. rudecta, Tuck.
  "  "  læavigata, Nyl.
  "  "  tiliacea, Floerke.
  "  "  var. sublæavigata, Nyl.
  "  "  sulphurosa, Tuck.
  "  "  cetrata, Ach.
  "  "  colpodes, Nyl.
  "  "  olivacea, Ach.
  "  "  caperata, Ach.
  "  "  compressa, Ach.
  "  "  ambiguca, Ach.

Physcia speciosa, Nyl.
  "  "  hypoleuca, Tuck.
  "  "  comosa, Nyl.
  "  "  granulifera, Tuck.
Physcia aquila, Nyl. var. detonsa, Tuck.
  " pulverulenta, Nyl.
  " stellaris, L.
  " " var. aipolia, Nyl.
  " astroidea, Ach.
  " crispa, Nyl.
  " tribacia, Tuck.
  " cæsia, Nyl.
  " obscura, Nyl.
  " " var. endochrysea, Nyl.
  " adglutinata, Nyl.

Pyxine sorediata, Fr.

Fam. 3. PELTIGEREL.

Sticta pulmonaria, Ach.
  " amplissima, Mass.
  " quefcizans, Ach.

Nephroma lævigatum, Ach.
  " Helveticum, Ach.

Peltigera scutata, Leightf.
  " aphthosa, Hoff.
  " polydactyla, Hoff.
  " rufescens, Hoff.
  " horizontalis, Hoff.
  " canina, Hoff.
  " " var. spongiosa, Tuck.
  " " " sorediata, Sch.
  " " " spuria, Ach.

Fam. 4. PANNARIEL.

Endocarpiscum Guepini, Nyl.

Physma luridum, Mont.

Pannaria lanuginosa, Koerb.
  " leucosticta, Tuck.
  " microphylla, Delis.
  " tryptophylla, Mass.
  " molybdæa, Tuck.
  " nigra, Nyl.
  " rubiginosa, Delis.

Fam. 5. COLLEMEI.

Pyrenopsis Schæreri, Nyl.
ADDITIONS TO THE FLORA OF WASHINGTON. 121

Omphalaria phyllisca, Tuck.
Collema myriococcum, Arn.
" pycnocarpum, Nyl.
" cyrtaspis, Tuck.
" verruciforme, Nyl.
" leptaleum, Tuck.
" flaccidum, Ach.
" nigrescens, Ach.
" ryssoleum, Tuck.
" pulposum, Nyl.
" limosum, Ach.
" pustulatum, Ach.
Leptogium bolacinum, Stizenb.
" minutissimum, Mass.
" lacerum, Fr.
" pulchellum, Nyl.
" Tremelloides, Fr.
" juniperinum, Tuck.
" chloromelum, Nyl.
" myochroum, Tuck.
" var. saturnium, Sch.
" " tomentosum, Sch.

Fam. 6. LECANOREL.

Placodium cinnabarrinum, Anz.
" vittelinum, Ach.
" " var. aurellam, Ach.
" cerinum, Naeg. & Hepp.
" " var. sideritis, Tuck.
" " pyracea, Nyl.
" aurantiacum, Naeg. & Hepp.
" microphyllinum, Tuck.
" camptidium, Tuck.
" ferrugineum, Hepp.
" " var. pollinii, Tuck.
" " " discolor, Willey.

Lecanora rubina, Ach.
" muralis, Schar.
" pallida, Schar.
Lecanora pallida, var. cancriformis, Tuck.
  
  "  "  angulosa, Hoff.
  "  "  miculata, Ach.
  "  "  sphaerulata, Ach.
  "  var. allophana, Ach.
  "  "  distans, Ach.
  "  "  coilocarpa, Ach.
  "  "  argentata, Ach.
  
  Hageni, Ach.
  "  "  atra, Ach.
  "  "  varia, Nyl.
  "  var. symmicta, Ach.
  "  "  seapincola, Fr.
  
  Cupressi, Tuck.
  "  "  pallescens, Schær.
  "  "  "  var. rosella, Tuck.
  "  "  tartarea, Ach.
  "  "  cinerea, Sommer.
  "  var. iævata, Fr.
  "  "  lacustris, Nyl.
  "  "  fuscata, Th., Fr.
  "  privigna, Nyl.
  "  var. pruinosa, Auctt.
  "  "  Clavus, Koerb.
  
Rinodina oreina, Mass.
  "  "  sophodes, Mass.
  "  "  var. atrocinerea, Nyl.
  "  "  "  confragosa, Nyl.
  "  "  "  exigua, Fr.
  "  "  "  tephraspis, Tuck.
  "  "  constans, Tuck.
  "  "  milliaria, Tuck.
  
Pertusaria communis, DC.
  "  "  multipuncta, Nyl.
  "  "  velata, Nyl.
  "  "  pustulata, Nyl.
  "  "  Wulffenii, DC.
  "  "  leioplaca, Schær.
Pertusaria globularis, Ach.
Conotrema urceolatum, Tuck.
Gyalecta Pineti, Fr.
  "  cupularis, Schär.
  "  geoiica, (?) Ach.
  "  lutea, Tuck.
Urceolaria scraposa, Snif.
  "  "  var. parasitica, Sommerf.
  "  "  gypsacea, Nyl.
  "  actinostoma, Pers.
Myriangium Curtissii, M. & B.

Frib. 1. Lecideacei.
Fam. 1. CLADONIEL.
Cladonia Papillaria, Hoff.
  "  pyxidata, Fr.
  "  "  var. Pocillum, Ach.
  "  alicornis, Floerke.
  "  symphyacarpa, Fr.
  "  "  var. epiphylla, Nyl.
  "  Mitrula, Tuck.
  "  cariosa, Spreng.
  "  decorticata, Floerke.
  "  fimbriata, Fr.
  "  "  var. tubiformis, Fr.
  "  "  radiata, Fr.
  "  gracilis, Fr.
  "  "  var. verticillata, Fr.
  "  "  hybrida, Schär.
  "  "  cervicornis, Floerke.
  "  degenerans, Floerke.
  "  Santensis, Tuck.
  "  cæspiticia, Fl.
  "  furcata, Fr.
  "  "  var. subulata, Fl.
  "  "  racemosa, Fl.
  "  rangiferina, Hoff.
  "  "  var. sylvatica, L.
  "  "  alpestris, L.
  "  uncialis, Fr.
Cladonia macilenta, Hoff.
    " Floerckiana, Fr.
    " pulchella, Schwein.
    " cristatella, Tuck.
    " leporina, Fr. (var.)
Cystocoleus rupestris, Rabh.

Fam. 2. LECIDEI.

Bæomyces roseus, Pers.
Biatora rufo-nigra, Tuck.
    " coarctata, Th. Fr.
    " decolorans, Fr.
    " russula, Mont.
    " sanguineo-atra, Fr.
    " atro-rufa, Ach
    " exigua, Fr.
    " milliaria, Fr.
    " anomala, Fr.
    " mixta, Fr.
    " rubella, Fr.
    " var. spadicea, Ach.
    " " suffusa, Fr.
    " " Schweinitzii, Tuck.
    " " incompta, Nyl.
    " " inundata, Fr.
    " " arceutina, Ach.
    " umbrina, Ach.
    " chlorosticta, Tuck.
    " vernalis, Fr.
    " uliginosa, Fr.
    " hypnophila, Turn.
    " campestris, Fr.
    " resinæ, Fr.

Heterothecium sanguinarius, Tuck.
    " leucoxanthum, Spreng.
    " vulpinum, Tuck.

Lecidea contigua, Fr.
    " enteroleuca, Fr.
    " var. olivacea, Fr.
Lecidea enteroleuca, var. theioplaca, Tuck.

Buellia lactea, Mass.

Buellia lepidistra, Tuck.

Buellia atro-alba, Fl.

Buellia parasema, Krb.

Buellia var. caesio-pruinosa, Nyl.

Buellia triphragmia, Nyl.

Buellia microcarpa, Nyl.

Buellia dialyta, Nyl.

Buellia myriocarpa, Dl.

Buellia Schäereri, Dnot.

Buellia Elizee, Tuck.

Buellia petraea, Tuck.

Buellia var. Montagnei, Fl.

Buellia Oederi, Krb.; and others undefined.

Trib. III. Graphidacei.

Fam. 1. LECANACTIDEA.

Lecanactis chloroconia, Tuck.

Fam. 2. OPEGRAPELI.

Opegrapha demissa, Tuck.

Opegrapha varia, Fr.

Opegrapha var. notha, Fr.

Opegrapha pulicaris, Fr.

Opegrapha diaphora, Fr.

Opegrapha rimalis, Fr.

Opegrapha atra, Nyl.

Opegrapha vulgata, Nyl.

Xylographa opegraphella, Nyl.

Graphis scripta, Ach.

Graphis var. limitata, Schäer.

Graphis recta, Schäer.

Graphis serpentina, Ach.

Graphis sophistica, Nyl.

Graphis assimilis, Nyl.

Graphis dentritica, Ach.
Graphis dentritica, var. inusta, Ach.
  " tricosa, Ach.
  " nitida (?), Nyl.

Fam. 3. ARTHONIACE.

Arthonia pyrrhula, Nyl.
  " rubella, Nyl.
  " cinereo-pruinosa, Schär.
  " cinnabarina, Walbr.

Arthonia lecidella, Nyl.
  " lurida, Ach.
  " patellulata, Nyl.
  " astroidea, Nyl.
  " epipasta, Ach.
  " macularis, Fr.
  " obscura, Ach.
  " punctiformis, Ach.
  " polymorpha, Ach.
  " tædiosa, Nyl.
  " spectabilis, Fl.
  " anastomosans, Ach.

Mycoporum pycnocarpum, Nyl.

Trib. IV. Caliciaceae.

Acolium tigillare, Dnot.
Calicium trichiale, Ach.
  " bruneolum, Ach.
  " subtile, Fr.
  " trachelinum, Ach.
  " turbinatum, Pers.
  " leucopodium, Nyl.
  " albo-nigrum, Nyl.

B. ANGIOSPERMATA.

Trib. V. Verrucariaceae.

Fam. 1. ENDOCARPEI.

Endocarpon miniatum, Schær.
  " var. complicatum, Schær.
  " aquaticum, Schær.
  " arboreum, Schwein.
  " rufescens, Ach.
  " pusillum, Hedw.
Fam. 2. VERRUCAEI.

Staurothele difractella, Tuck.
" Drummondii, Tuck.
" umbrina, Tuck.

Trypethelium virens, Tuck.

Sagedia lactea, Kbr.
" oxyspora, Tuck.
" cestrensis, Tuck.

Verrucaria epigæa, Ach.
" margacea, Nyl.
" nigrescens, Pers.
" rupestris, Schrad.
" muralis, Ach.

Pyrenula thelena, Tuck.
" micula, Fl.
" punctiformis, Naeg.
" fallax, Nyl.
" gemmata, Naeg.
" hyalospora, Tuck.
" glabrata, Mass.
" Santensis, Nyl.
" nitida, Ach.
" lactea, Tuck.
" subprostans, Tuck.
" falliciora, Nyl.
" leucoplaça, Kbr.
" thelomorpha, Tuck.

IV. CHANGES IN NOMENCLATURE.

[The recent published works of Drs. Gray and Vasey have made necessary many changes in the nomenclature of our species. It has been suggested that these changes be deferred until the publication of a second edition of the "Flora," but this has seemed to be inadvisable, as it must be some years before a second edition can be brought out, if ever, and if we are constantly confronted by the old names we shall never become familiar with the new and correct ones.]

295. Ribes rotundifolium, Michx., = Ribes oxycanthoides, Linn.

Pointed out by Mr. Walter Deane, of Cambridge, who has carefully compared it at the Gray Herbarium.

412. Solidago stricta, Ait., = Solidago neglecta, Torr. & Gr.
414. Solidago Virga-àurea, L., var. humilis, Gray, = Solidago humilis, Pursh.
417. Solidago arguta, Ait., = Solidago juncea, Ait.
418. Solidago altissima, L., = Solidago rugosa, Mill.
442. Aster carneus, Nees, = Aster salicifolius, (Lam.) Ait.
443. Aster æstivus, Ait., = Aster junceus, Ait.
449. Diploppappus linearifolius, Hook., = Aster linearifolius, L.
450. Diploppappus umbellatus, Torr. & Gray, = Aster umbellatus, Mill.
473. Eclipta procumbens, Michx., = Eclipta alba, Hasskarl.
510. Lappa officinalis, Allioni, = Arctium Lappa, L., var. (?)
520. Cynthia Dandelion, DC., = Krigia Dandelion, Nutt.
529. Lactua Canadensis, L., var. integrifolia, Gray, = Lactua integrifolia, Bigel.
530. Mulgedium acuminatum, DC., = Lactua acuminata, Gray.
531. Mulgedium Floridanum, DC., = Lactua Floridana, Gærtn.
532. Mulgedium leucophæum, DC., = Lactua leucophæa, Gray.
533. Nabalus albus, Hook., = Prenanthes alba, L.
534. Nabalus Fraséri, DC., = Prenanthes serpentaria, Pursh.
644. Physalis viscosa, L., of Gray's Manual, = Physalis Virginiana, Mill. of Syn., Fl. of N. A. This change has been pointed out by Mr. Deane.
ADDITIONS TO THE FLORA OF WASHINGTON. 129


837. Quercus Muhlenbergii, Engel, = Quercus prinoides, Willd., as adopted by Sargent.


1105. Agrostis alba, L., = Agrostis vulgaris, var. alba, Vasey.

1114. Calamagrostis Nuttalliana, Steud., = Deyeuxia Nuttalliana, Vasey.

1124. Tricospis seslerioides, Torr., = Triodia seslerioides, Vasey.

1129. Glyceria aquatica, Smith, = Glyceria arundinacea, Kth.

1140. Eragrostis pzoneoides, Beav., = Eragrostis minor, Host.

1141. Eragrostis pzoneoides, var. megastachya, Gray, = Eragrostis major, Host.


1198. Erianthus alopecuroides, Ell., = Panicum saccharoides, Michx.

1199. Andropogon furcatu, Muhl., = Andropogon provincialis, Lam.


1202. Andropogon Virginicus, L., = Andropogon dissitiflorus, Michx.

1204. Sorghum nutans, Gray, = Chrysopogon nutans, Benth.

V. NEW LOCALITIES FOR RARE SPECIES.

26. Aconitum uncinatum, L.
   Near Clifton Station, Va., Sept. 20, 1885, by Prof. Ward.

78. Thlaspi arvense, L. Field Pennycress.
   Below St. Elizabeth's, May 18, 1884, by Prof. Ward.

106. Silene nivea, DC.
   Alexander's Island, June 25, 1885. Mr. J. A. Allen.

300. Drosera rotundifolia, L.
   Sarracenia Swamp, May 10, 1885; also at Fort Ethan Allen, by Mr. William Palmer.

304. Callitriche Austini, Engelm.
   Brightwood, May 16, 1885. Mr. J. A. Allen.

415. Solidago rigida, L.
   Woodley Park, in fruit, Oct. 18, 1885. Prof. Ward and myself.
551. Gaultheria procumbens, L. Wintergreen.
    Found on the Mt. Vernon estate, Va., in October, 1884, by Mr.
    William Hunter.

589. Asclepias rubra, L.
    Vicinity of Falls Church, Va., Miss M. A. Hayes, July 11, 1885.

599. Enslenia albida, Nutt.
    Alexander's Island, June 25, 1885. Mr. J. A. Allen. Below
    Chain Bridge, in fruit, Sept. 12, 1885. Prof. Ward and
    myself.

627. Lithospermum canescens, Lehm.
    North side of Woodley Park Road, first bend above the bridge.
    Collected May 17 and 21, 1884. Prof. Ward.

629a. Heliotropium Europæum, L. Heliotope.
    Alexandria, Va., near the ship-yard, July 4, 1884. Prof. Ward.

672. Buchnera Americana, L.
    Near Clifton Station, Va., Sept. 20, 1885. Prof. Ward.

73a. Scutellaria parvula, Mx. Scullcap.
    Kengla's Woods, June 4, 1884. Prof. Ward.

741. Plantago cordata, L.-am.
    Poplar Point, on the Eastern Branch, October 26, 1884. Prof.
    Ward and myself. Important on account of its greater ac-
    cessibility.

805. Cacalia reniformis, Muhl.
    Alexander's Island, June 25, 1885. Mr. J. A. Allen.

835. Quercus Michauxii, Nutt.
    Near "Owl Bridge," (Northwest Branch). A large fine tree,
    quite typical. Found by Mr. H. W. Henshaw and myself,
    September 11, 1885.

849. Quercus heterophylla, Mx.
    A fine tree of this species was discovered near Convalescent
    Camp, Virginia, June 29, 1884, by Prof. Ward. In fine
    fruiting condition, October 5, 1884. "The affinities of this
    specimen with Q. Phellos are closer than in any of the
    forms hitherto found. The leaves resemble in almost every
    respect those which I collected from the tree now standing
    in the Bartram estate, Philadelphia, south of the mansion,
    and which is said to have grown from an acorn of the
original Bartram Oak planted by the discoverer." Prof. Ward.

874. Arisae ma Dracontium, Schott.
Analostan Island, June 20, 1885. Titus Ulke.

Found by Mr. Benj. Miller in Kengla's Woods, near the Foundry Run, May 7, 1884, and therefore constituting a case of the vernal blooming of an autumnal species. "I visited this spot in company with Mr. Miller on June 4, 1884, and found the plant nearly extinct. It had died down and withered away without fruiting. On September 28, 1884, I found it in abundance along the Northwest Branch of the Potomac."—Prof. Ward.

919. Corallorhiza multiflora, Nutt.
A single specimen, the second ever seen here, was found on the Northwest Branch of the Potomac, Sept. 28, 1884.

946. Smilacina stellata, Desf.
High Island, May 11, 1885. Four or five fine specimens found. Hugh M. Smith.

951. Erythronium albidum, L.
Found at "Vis-a-vis" Landing, opposite Three Sisters, April 26, 1885. Mr. H. M. Smith.

1211. Tsuga Canadensis, Carrière.
Left bank of Pope's Head Creek, one-half mile below Clifton Station, Va., Sept. 20, 1885. Prof. Ward.

1216. Pellæa atropurpurea, Link.
Found June, 1885, by Mr. H. M. Smith, on the outer walls of the causeway connecting Analostan Island with the mainland. Plants numerous.

1223. Asplenium augustifolium, Michx.
Found at head of Asplenium Run, above Aqueduct Bridge, Sept. 19, 1885. Mr. H. W. Henshaw and myself.

1226. Camptosorus rhizophyllus, Link.
Near Burnt Mills, Md., July 1, 1885. Mr. H. W. Henshaw. Also High Island, April, 1885. Mr. J. A. Allen.
1220. Woodwardia Virginica, Smith.
Below the Reform School, Aug. 19, 1885. Mr. Wm. Palmer and myself.

VI. SPECIES EXCLUDED.

172 Vitis vulpina, L., = Vitis riparia, Michx.
The specimens mentioned in the "Flora" that were referred to this species, were collected in flower May 22, 1881, and in young fruit June 4, 1881, at Sandy Landing, Md. Specimens in mature fruit collected Sept. 12, 1885, on the rocks below Chain Bridge. From characters furnished by the seeds and the diaphrams separating the nodes of the stem, as pointed out by Dr. Engelmann, this is referred to the V. riparia, Michx.

This species has been compared at the Gray Herb. by Mr. Walter Deane, and referred as above.

Compared at the Gray Herbarium by Mr. Walter Deane who pronounces this to be the type and not the variety.

1251. Lycopodium complanatum, L., var. sabinaefolium, Spring., = Lycopodium complanatum, L.
The forms referred to this variety were collected two miles north of Bladensburg, in young fruit, July 20, 1879, and at Clifton Station, Va., Oct. 12, 1884, by Prof. Ward. These have been submitted to Prof. L. W. Underwood, of Syracuse University, and he pronounces them all to be complanatum. This variety, or, as it has been lately known, species, sabinaefolium, is distinguished by having the stems leafy to base of spikes, or nearly so, elongated, creeping, usually underground; branches erect, short, dichotomous; leaves 4-rowed, apparently terete.
In complanatum the stems are flattened, leaves of two forms, imbricate—oppressed in 4 ranks. These specimens are certainly anomalous in having the stems creeping underground, but otherwise they agree well with the type.