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MEMOIRS  
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Vol. II.

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NOTES ON THE SPRING FLORA OF SOUTH-  
WESTERN VIRGINIA.

BY ANNA MURRAY VAIL.

Plates III and IV.

A long, dusty ride in the latter part of May, from Washington to Roanoke, was the beginning of our trip to Virginia. The country was interesting all the way, but the fleeting glimpses we had of strange plants and trees were, from a botanical point of view, more of an aggravation than a pleasure. During a short stop at Culpeper, *Crepis pulchra* \* was gathered close to the tracks—a novelty in the line of introduced plants.

Roanoke, one of the most rapidly growing industrial towns in Virginia, is situated in a hollow closely surrounded by wooded foot-hills, and beyond them by the higher forest-clad ranges of the Blue Ridge, prominent among which are the twin sugar-loaf-shaped Peaks of Otter.

A short walk late in the afternoon of our arrival brought us to the high, rocky banks of the Roanoke River, where the

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\* *Crepis pulchra*, L. Sp. Pl., 806. Another European Composite to be added to our long list of introduced plants. It was observed in large quantities along the railroad, and has been determined by Dr. Porter. The specimens exactly match those from continental Europe.—N. L. B.

first plant collected was a *Clematis*, which, being erroneously described in the various Floras as *Clematis ovata*, Pursh, is now named by Dr. Britton, in honor of the President of the Torrey Botanical Club—*Clematis Addisonii*.\* (Plate III.)

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\* CLEMATIS ADDISONII. (*C. ovata*, Torr. & Gray, Fl. N. A. i. (1838), not Pursh, Fl. Amer. Sept. ii., Suppl. 736 (1814).

Ascending or erect, 1<sup>o</sup>-3<sup>o</sup> long, simple or bushy-branched, tufted, glabrous throughout, glaucous. Branches slender and often trailing. Lower leaves simple, entire or rarely 2-4 lobed, obtuse, deep bluish-green above, conspicuously glaucous beneath, sessile, clasping, 2'-4' long; upper leaves pinnate and tendril-bearing, of 2 or 4 ovate, sessile leaflets, or in small plants simple and similar to the lower; flowers solitary, terminal and sometimes also axillary, reddish or bluish-purple, nodding, ovate, 9''-15'' long, 5''-7'' broad at the base, narrowed toward the summit; sepals thick and leathery, lanceolate, acute, their tips recurved; stamens numerous, about equaling the sepals, glabrous below, pubescent above; achenia flat, nearly orbicular, blunt-margined, finely silky-pubescent; persistent styles 1'-1 $\frac{1}{4}$ ' long, plumose throughout, the plumes brown; achenia 6-20 in each head.

This plant has had a peculiar and very interesting history. It appears to have been first collected many years ago by Le Conte in the mountains of North Carolina, and specimens of this collection are preserved both at Philadelphia and New York. It was also found by Baldwin in Georgia or Florida. The first allusion to it in print that I have come upon is in Torrey and Gray's Flora, where Pursh's name *ovata* was erroneously taken up for it, as it has also been by all subsequent authors who have had occasion to refer to it. Dr. Gray was the first to make this out, by an examination of Pursh's type in the Sherardian Herbarium preserved at Oxford, and in writing of the group of American species of *Clematis* with pinnate leaves in Bot. Mag., tab. 6594, he says, in describing *C. reticulata*, a coriaceous-leaved southern plant: "*C. ovata*, Pursh, of which the original specimens in Herb. Oxon. have leaves almost as reticulated as this when old, appears to be *C. ochroleuca*, Ait." In order to make sure of this, as from Dr. Gray's expression "appears to be" I suspected that he was not altogether certain about it, I sent abundant specimens of both the Roanoke plant and of *C. ochroleuca*, Ait., collected on Staten Island, to Professor Sidney H. Vines, the distinguished director of the Oxford Botanic Garden and Museum. He very kindly compared them with the *Clematis* of the Sherardian Herbarium, and reports to me as follows:

"It is a single branch, bearing four leaves and a single flower in fruit. It is numbered 1140, and bears the following label: 'No. 1140 *Clematis virginiana*, Pannonica similis, foliis amplioribus subrotundis. Pluk. Mant., Tab. 397, f. 4. Negroe's Head. Mr. Dale's specimen has larger and rounder leaves. Dr. Pluk. figure represents this, but y<sup>e</sup> leaves are trifida or tridentata.'

"On this label is penciled, '*C. ovata*, Pursh Suppl.,' without indications of writer. Also in another hand, '*C. venosa*, Ph. am. fl.'

"The specimen has no sepals which, according to Kuntze's recent monograph, are of classificatory importance. The form of the leaf does not exactly agree with that of any of the specimens you send. The leaves on our speci-

Of about 45 species collected that afternoon, the most notable were the little white-flowered *Sedum Nevii* growing

men are ovate-acuminate, coriaceous in texture, glabrous above, slightly hairy beneath and strongly reticulated on both surfaces. On the whole it more nearly approaches your specimens of *C. ochroleuca*, Ait., than it does those which you send as *C. ovata*, and we should be consequently inclined to refer it to *C. ochroleuca*, Ait. It certainly is not your *C. ovata*. In this conclusion we agree with Dr. Gray's note in the Bot. Mag. to which you refer.

"There is another specimen of *Clematis*—1139—in the Sherardian collection, which is labelled as follows :

"*Clematis erecta, humilis non ramosa, foliis subrotundis flore unico ochroleuco.* Banist. Cat. Pluk. Mant. 51, T. 379, 65.'

"On this label is written in pencil, '*C. ochroleuca*,' and there is no doubt that the determination is correct."

It will be seen that this examination settles conclusively that our plant is not *C. ovata*, Pursh, and therefore must receive another name. The question next arises, What is *C. ovata*, Pursh? There seems still to be question as to its equivalency with *C. ochroleuca*, from which Pursh distinguished it, for he re-published *C. ochroleuca*, Ait., as *C. sericea*. It was collected on Negroe's Head, which is a mountain of the southern Blue Ridge, while *C. ochroleuca* is, to my knowledge, not a mountain species at all, but grows in sandy or gravelly soil from southern New York to North Carolina. On the western side of Staten Island it occurs in almost pure sand on a dune.

In August of the present year I collected a number of specimens of a *Clematis* in fruit, high up on Kate's Mountain, at White Sulphur Springs, W. Va., which I supposed was *C. ochroleuca*, although quite surprised to find it in such a place. The soil was rocky and the plants smaller than those of *C. ochroleuca* generally are. On examining this critically, I find that it differs from the lowland plant in being almost glabrous, the lower-leaf surfaces and twigs of *C. ochroleuca* retaining their somewhat dense pubescence to the last. But the most striking difference is in the color of the plumose styles; they are grayish white, while those of *C. ochroleuca* are always brown; besides this, they are proportionately shorter. Judge Brown had previously called my attention to the great difference in color of the plumes in various species of *Clematis*, and it certainly seems to be a valuable character. After receiving the information above quoted from Professor Vines, I sent off specimens of this plant to Oxford, and have the following note from that gentleman, to whom I would express my sincere gratitude for the considerable trouble he has taken in the matter: "In reply to yours of November 10, referring to the *Clematis* question, I hasten to inform you that Mr. Druce and I have carefully compared the specimens of *Clematis* collected by you at White Sulphur Springs, West Virginia, with our specimen of *C. ovata*, Pursh. We have come to the conclusion that the two plants are identical. The texture and venation of the leaves and the fruit are remarkably similar in the two, but in our specimen the leaves are slightly more acuminate than in yours."

on the rocks, and a new variety of *Pentstemon lævigatus*\*—the latter a handsome plant with white or light purplish flowers. We also found it later on the Peaks of Otter and at

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*Clematis ovata*, Pursh, is, then, apparently a good species, evidently rare, and not yet collected in flower, so far as I can ascertain.

All authors have been mistaken in describing *C. Addisonii* as strictly erect. To be sure, nothing but the tops of small plants had previously been collected, and from the solitary flower and simple leaves this was the most natural conclusion. Some of the smaller plants are obliquely erect, but the relationship is with *C. Viorna* rather than with *C. ochroleuca*. *C. Viorna* was, indeed, collected and observed in considerable quantities on the same bluff, and readily distinguished by its long, trailing stems, sometimes attaining 10 feet or more, its smaller, always pinnate lower leaves, and acute leaflets green on both sides. It comes into bloom at least two weeks later than *C. Addisonii*. Several plants of an evident hybrid between them were also collected, having characters exactly intermediate, which may be called CLEMATIS VIORNOIDES.

It is worth while recording that Pursh says in his description of *C. ovata*, that he considers the reference written in the Sherardian Herbarium to Plukenet's figure as not applicable to his *C. ovata*, because that figure represents a plant with tridentate leaves, and that he regards it as "an imperfect specimen of *Clematis* with compound leaves." However this may be, *C. ochroleuca* occasionally occurs with toothed leaves, and we may expect this in any one of the normally entire-leaved species.

This William Sherard, pupil of Tournefort, whose herbarium has been so important in working out the matter, was born in 1659 and died in 1728. He founded the Chair of Botany at Oxford, and attached to it his botanical library and herbarium of 12,000 species.

O. Kuntze, in *Verhand. Bot. Ver. Brandenburg*, xxvi., 176, 177, refers *C. ochroleuca*, *C. ovata* and also *C. Fremontii*, S. Wats., to varieties of the European *C. integrifolia*, making six subvarieties of *C. ochroleuca*. I believe that this is as unphilosophical a treatment of the group as could well be devised. He has also a subvar. *subglabra* of *ovata*, said to have been collected at Eagle Pass, on the Mexican Boundary Survey, and preserved in the Berlin Herbarium. I suspect a mistaken label as the cause of this publication, for there is no record in the Botany of the Mexican Boundary of any *Clematis* from Eagle Pass, and it is unlikely that any member of this group occurs in that part of the country. Mr. Joseph F. James, in his "Revision of the *Clematis* of the United States" (*Journ. Cincin. Soc. Nat. Hist.*, vi.), records having seen the specimen marked *C. ovata* in the Philadelphia Herbarium, and says, "it is in appearance simply a small *ochroleuca*," but he could not have examined it very closely.—N. L. B.

\* PENTSTEMON LÆVIGATUS, Sol. var. CANESCENS, n. var. More or less finely canescent all over, sometimes densely so, simple, 1<sup>o</sup>-2<sup>o</sup> high. Upper leaves sessile and clasping, ovate or ovate-lanceolate, 2'-3' long, acute, dentate, those of the middle and lower part of the stem narrowed below the

Luray, and in every case growing with *Euphorbia corollata*. *Oxalis recurva* was in bloom all through the woods, and we found *Heuchera pubescens* and the pods of *Corydalis micrantha* on the rocks, and collected some splendid specimens of the high-climbing *Smilax Pseudo-China*.

In a swampy meadow we found *Veronica Anagallis*\* growing with *Nasturtium officinale*, and all over the dry fields were patches of the pretty, purple *Verbena angustifolia* and *Delphinium Consolida*, the latter plant in three colors, dark blue, pink and white.

In a ditch on the edge of the town *Ranunculus sceleratus* † grew abundantly.

Early the next morning we left for Eggleston's in the beautiful New River Valley, and from there drove to Mountain Lake.

middle, so as to be somewhat fiddle-shaped, the lowest and those of the base contracted into long, margined petioles; flowers purplish or nearly white, the corolla wide open, not bearded in the throat or very slightly so, 10''-12'' long; sterile, filament slightly bearded for about one-third of its length; pod ovoid, glabrous, slightly exceeding the calyx.

A plant of very different appearance from *P. laevigatus* or *P. Digitalis*, marked especially by its canescent, fiddle-shaped lower leaves. We have it also from Asheville, N. C., collected by Mr. Hogg in 1886, who also found what I suppose to be *P. laevigatus* there, and called my attention to the difference between them.—N. L. B.

\* *Veronica Anagallis*. Our specimens are of the typical plant exactly matching European. The species has not hitherto been reported from so far south. The var. *latifolia*, Britt. (BULLETIN, XII., 49), is very different from this in habit and aspect, and is now known from numerous localities in New Jersey and eastern Pennsylvania, where the type has not yet been discovered, although occurring in central Pennsylvania and further west.—N. L. B.

† *Ranunculus sceleratus*, L. Very abundant in a roadside ditch, and evidently introduced. There are two forms of this species, if indeed they do not represent something more than forms. The truly native North American plant, so abundant along the edges of salt marshes and in saline situations in the interior, has thick, oblong heads of akenes, seldom more than two or three times as broad as long, and occurs also in northeastern Asia. The plants from Roanoke and some European specimens have narrow, linear heads, often four or five times as long as broad, and there appears to be a slight difference in the form of the akenes, while the plants with the broader heads have larger flowers. I have not enough material at present to indicate if they are specifically or variatally distinct.—N. L. B.

The guide-books advertise the drive as eight miles; our driver told us it was ten, adding that we might think it fifteen before we reached the hotel. The first part of the road was uninteresting, very hot and dusty and of the roughest description. Early during the drive we found *Viola striata* growing along the edge of a stony brook, a few specimens of *Phacelia parviflora* in a fence corner, and *Polygala Senega* on the border of the woods as we began the long ascent. In a small damp wood *Podophyllum peltatum* was in flower and *Caulophyllum thalictroides* in fruit, and near by we saw the bright, crimson stars of *Silene Virginica*.

As we drove along a narrow ravine higher up, we caught our first glimpse of *Rhododendron calendulaceum*, yellow, scarlet and crimson; its brilliancy and great variation of color were astonishing, and a constant delight to us all the while we were on the mountain.

The dainty flowers of *Vaccinium stamineum* were larger and whiter the higher we drove. *Vaccinium erythrocarpon* and *Menziesia globularis* were scattered along the roadside, and deep down among the dead leaves we found a few late blossoms of *Epigæa repens*, apparently as much at home there as it is many miles nearer New York. Among many groups of fine trees we noticed especially *Tilia heterophylla*, *Magnolia acuminata* and *Æsculus lutea* growing together, the latter in full bloom, with swarms of bees flying around its great panicles of creamy flowers.

Along the road, near the top of the mountain, *Gillenia trifoliata* and *Cypripedium acaule* were plentiful, and *Cypripedium parviflorum* was in its prime and very fragrant. The crowning excitement of the day was the finding of the beautiful *Convallaria majalis* and *Anemone trifolia*\* growing

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\* *Anemone trifolia*, L. Sp. Pl. (*A. nemorosa*, var., A. Gray, Amer. Nat., vii., 422.) An investigation of this interesting plant was the principal cause for the expedition. Mr. Canby had collected it on Salt Pond Mountain several years ago, and it had also been found by Mr. Curtiss on the Peaks of Otter. An authentic specimen from Germany is preserved in our herbarium, and I had



in close companionship among the stones. Our trip to Salt Pond Mountain was largely for the purpose of finding *Anemone trifolia*, and to see it so soon, and in such great quantities, was a pleasure, mingled with surprise that it should have been so long overlooked. (Plate IV.)

The hotel, a large and comfortable old-fashioned house, was reached at seven. It is 4,000 feet above sea-level, on the edge of a pretty little lake, surrounded on all sides by high forest-covered ridges. On the borders of the lake were dense thickets of *Rhododendron maximum* and *Kalmia latifolia*, to see which, when in flower, must alone be worth the journey to Virginia. Three delightful days were spent on the mountain exploring the woods in all directions.

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compared it with one of Mr. Canby's. Both he and I had concluded that it was distinct from *A. nemorosa*. It occurs very abundantly in dry or rocky situations on all the higher parts of Salt Pond Mountain except the extreme, unwooded summit, growing often from between rocks, and varying from 6' to 18' or even more in height. It is thus very different in habit and habitat from the widely distributed plant of low altitudes, which has been by nearly all recent authors referred to *A. nemorosa*, L., of the Old World, but which I have maintained is specifically distinct, as did Linnæus and Barton. (See BULLETIN, xvii., 123.) Up to the present time I have been unable to learn of the occurrence of true *A. nemorosa* in North America. *A. trifolia* is readily distinguished from either by its greater size, different habitat, isolated geographical distribution at high altitudes, its proportionately broader and thicker leaflets, larger flower, more numerous akenes, and the majority of its root-leaves being only 3-divided, while those of *A. quinquefolia* are almost always 5-divided. Some plants of *A. trifolia* were found with the root-leaves 4, 5 and even 6-divided, however. *A. quinquefolia* also blooms much earlier. It is interesting to note the occurrence here of *Convallaria majalis*, also a European plant, and in America equally restricted in range to the higher southern mountains. *A. quinquefolia* was found plentifully along brooks and in moist places lower down on the mountain, but I found that I could always distinguish the two species. That they are, however, very closely allied there can be no question, but they are as distinct as many other Ranunculaceous plants commonly regarded as different species.

About half-way down the Peaks of Otter, along the road to Buchanan, we found a large patch of the plant, still stouter and with larger and broader leaflets than any noticed on the other mountain. At this lower altitude vegetation was much further advanced, and the fruit had entirely fallen from the plants collected at this locality. Careful search revealed no *A. quinquefolia* in the vicinity.—N. L. B.

The first excursion was to the summit of Bald Knob, about 500 feet above the hotel. On the north side of the rocks up there, *Saxifraga leucanthemifolia* grew abundantly with *Heuchera villosa* and tiny plants of *Asplenium montanum*, and the sunny slope was carpeted with *Viola pedata* and its beautiful pansy-like forma *bicolor*. Both *Clintonias* and the slender white *Chamælirium luteum* were at home just below the summit, and *Ilex montana*\* grew in close proximity to *Ribes rotundifolia*.

We explored the lake and its borders, but with the exception of a few plants of *Parnassia asarifolia* growing on old logs, and a few mosses in the water, of vegetable life there was none, nor much of animal life either, for the matter of that. According to the agent in charge of the property, the lake has frequently been stocked with fish, the outlet properly wired and protected, but from the day they were put in the water to the present time, never a fish, living or dead, has been seen, which is mysterious, to say the least.

In and around Little Stony Creek, the outlet of Mountain Lake, we saw quantities of *Trautvetteria Caroliniensis* growing with *Veratrum viride*, and close by on the edge of the marsh were the dainty white flowers of *Oxalis Acetosella* and *Tiarella cordifolia*.

We collected some old fruit vessels of *Epiphegus Virginiana*, and *Conopholis Americana* was seen in three localities on the mountain, and also in fruit later at Eggleston's. On the edge

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\* *Ilex montana*, Torr. & Gray, in A. Gray, Man., Ed. 1, 276 (1848), is the name which should be applied to the shrub which in all recent writings is called *I. monticola*, Gray (Man., Ed. 2, 264, 1856). Dr. Gray changed the name in the second edition of the manual, after ascertaining that there was already published a *Prinos montana*, Swartz Fl. Ind. Occ. i., 622 (1797). It was in the second edition, and not the fifth, as is erroneously quoted by Dr. Watson in his Bibliographical Index, and by Professor Trelease, Proc. St. Louis Acad., v., 347, that Dr. Gray first proposed to merge *Prinos* in *Ilex*. But *Prinos montana* is not *Ilex montana*, which binomial was subsequently taken up by Grisebach (Flor. Brit. West Ind., 147 [1864]), for Swartz' plant. This is the species which must receive another name, and several seem to have been associated with it.—N. L. B.

of the Hemlock woods was found the gloomy-looking, ill-scented *Trillium erectum* and the high-climbing curious *Aristolochia Sipho*.

The hillside above the creek was a bewildering mass of bright flowers. A great patch of the brilliant *Castilleja coccinea* grew in the hottest, dryest slope among the bushes. *Rhododendron calendulaceum* was abundant, taller, and, if possible, even more startling in color than any seen before, and near by grew the rose-colored, fragrant *Rhododendron canescens*,\* a striking contrast to its more brilliant neighbor.

*Trillium grandiflorum* was conspicuous for its large showy white or pink petals. *Trillium erythrocarpon* was past its prime, but we were fortunate enough to find a few plants that still showed their delicately veined flowers. *Disporum lanuginosum* was in fruit, and *Uvularia puberula* common on the hillside.

Violets were plentiful everywhere. Two yellow ones, *Viola pubescens* and *Viola hastata*, were still flowering, and in shady nooks the large, shiny leaves of *Viola rotundifolia* were conspicuous, but of the latter we had to content ourselves with fine fruiting specimens only. A big bed of *Viola Canadensis*, a foot tall and very fragrant, grew around a tiny spring on the edge of the path, and the meadow in front of the house was covered with the more common species.

Growing in a little brook near the head of that same meadow were the tall plants of *Saxifraga micranthifolia*, and all through the woods *Zizia Bebbii* † was plentiful.

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\* *Rhododendron canescens* (Michx.), Porter (BULLETIN, xvi., 220). Holding its characters very well, the flowers with the delicious fragrance of those observed on the Pocono Plateau of Pennsylvania, and evidently a mountain plant. No *R. nudiflorum* was observed during the trip, and this is as evidently a low-ground species. I have collected *R. canescens* during the past season about High Point in the Shawangunk Mountains, both in northwestern New Jersey and southern New York.—N. L. B.

† ZIZIA BEBBII (Coul. & Rose). (*Z. aurea*, var. *Bebbiei*, Coul. & Rose, Bot. Gaz., xii., 138.) This plant is very abundant all over Salt Pond Mountain, apparently to the exclusion of *Z. aurea*. The long rays of its umbels and small, rather narrow leaves appeared to be perfectly constant, and mark it as a distinct species.—N. L. B.

Along the top of one of the ridges we collected the flowers of *Hicoria alba* and *Hicoria minima*, and saw some splendid shrubs of *Cratægus coccinea* in full bloom. In the woods below the ridge *Cypripedium pubescens* and *Pogonia verticillata* were collected, but the latter was scarce.

Early on the 3d of June we drove to the Cascades of Little Stony Creek, five miles away, along a beautiful wood road, where the flora was practically the same as around Mountain Lake, and our destination was reached without any more exciting incidents than occasionally having to alight and join in clearing the road of fallen trees and decayed logs. The last mile was on foot over a rough trail, through the deep woods along the foaming water. On a tall cliff we found some unusually large fronds of *Asplenium montanum*, and on the edge of the Hemlock woods both *Asarum Canadense* and *Asarum Virginicum*. We lunched on a big rock in the centre of the stream below the very pretty falls, collected some ferns and *Cornus alternifolia*, returned to the wagons and drove down over a fearfully rough road to Eggleston's, which we reached late in the afternoon, much the worse for wear. The most important plants found on the return trip were *Phlox ovata* and three *Scutellarias*, *S. saxatilis*, *S. serrata* and *S. nervosa*.

The hotel at Eggleston's, a dreary rambling old Colonial structure, is the remains of what once must have been a fine Virginia mansion with farm-buildings and negro-quarters attached, all in a sadly dilapidated condition.

It was too late to do any botanizing that day, and we had to content ourselves with a hasty scramble over the rocks on the opposite side of the river, where we found *Draba ramosissima*, *Anemone acuta*, the fruit of *Heuchera villosa*, and on the river-bank we collected *Barbarea vulgaris*, var. *arcuata* and *Oxalis stricta*.\*

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\* *Oxalis stricta*, L. (*O. corniculata*, var. *stricta*, Savi). In my view this is better regarded as a species than as a variety of the tropical *O. corniculata*, which is only known in the United States from the Gulf region, the lower Mississippi Valley and the southwest, while *O. stricta* extends northward far into

We were rather dismayed the next morning by the thick, white fog on the river. It cleared off by breakfast-time, but left everything drenched and the air close and hot, and hot was a mild word to apply to our climb to the top of the tall, picturesque cliffs that rise out of the river half a mile below the house. From the top we had a splendid view of the swift, opaque, red river stretching away to the right in endless rapids, the opposite banks clothed in the delicate spring foliage, the blue hills beyond, and over all the white, dancing heat of an almost tropical day. The objective point of the climb was the rare *Pachystima Canbyi*, which grows in a few spare patches on the topmost ledges. We were able to find a few of its tiny flowers, but saw no sign of any fruit.

*Rhus aromatica* and *Berberis Canadensis* grow on the edge of the dizzy height, and so do any number of ferns, the most notable of which were *Pellaea atropurpurea*, *Asplenium parvulum* and *Camptosorus rhizophyllus*.

*Clematis Viorna* was in full bloom, and so was also the pretty, delicate *Arenaria stricta*.\*

After a dinner which was in every way in accord with our surroundings, we left for the station on the opposite bank of

Canada, being most abundant, indeed, in temperate regions, and not plenty in the regions where *O. corniculata* is most abundant. It is only depauperate plants of *O. stricta* that can be confused with *O. corniculata*. In Germany, where *O. stricta* is introduced as a weed, it is regarded as distinct from the other species. (Reichenb. Icon. Fl. Germ. & Helv., Fig. 4895; Koch, Syn. Flor. Germ. & Helv., Ed. 2, 157.)—N. L. B.

\* *Arenaria stricta*, Michx. Fl. Bor. Amer. i., 274 (1803), not S. Wats.

*Alsine Michauxii*, Fenzl. Ann. Mus. Wien. i., 18 (1836).

*Arenaria Michauxii*, Hook. f. Arctic Pl., 287 (1860).

*Arenaria stricta*, S. Wats., Bibliog. Index, Polypet. 98 (1878), is based on *Spergula stricta*, Sw. Act. Holm., xx., 229 (1799), which is also *Alsine stricta*. Wahl. Fl. Lap., 127 (1812), and the oldest name available for it appears to be *Arenaria uliginosa*, Schleich. Dr. Watson's binomial of 1878 can in no way displace Michaux' of 1803. To be sure, Swartz' specific name *stricta*, applied to the arctic plant under *Spergula*, has priority over Michaux' *stricta* applied to the species now under consideration as *Arenaria*. This is an instance where Dr. Watson maintained an original specific name under what appears to me an erroneous principle.—N. L. B.

the river, and there were greeted with the information that our train was three and a half hours late. Three hours and a half is a mere trifle of detention in that region, so we foraged for supper in the neighboring cabins and provision stores, and the most self-sacrificing member of the party walked half a mile along the railroad track to the only spring in the place, and brought back drinking-water in a tin botany box. When the train arrived, we had a delightfully cool ride to Radford, where we spent the night in the new and pretty Queen Anne inn.

The next day, June 5th, we returned to Roanoke, and drove up and down both sides of the river in search of more *Clematis Addisonii*. We procured a big bundle of roots and a lot of fine herbarium specimens in addition to those previously collected, and among other plants not seen on our first visit we found *Gonolobus Carolinensis*, and two *Ruellias*—*Ruellia strepens* and *Ruellia ciliosa*, var. *ambigua*. *Dianthera Americana* was also in flower in the mud on the edge of the water, and on the cliffs we collected the rare *Cheilanthes vestita*.

In the evening we left for Natural Bridge, and then came a long drive on the top of the tally-ho to the hotel. We flew along through deliciously fragrant pine woods, lit up by myriads of gay, little fireflies, with here and there glimpses of the James River shining out of the darkness of the valley below. It had rained heavily during the day, and ditches and brooks were brimming full, and the stars and fireflies were reflected in them, in the most bewildering way.

The next day was so hot and close that a lengthened stay at Natural Bridge was abandoned. We spent the morning attending to our plants (which by that time was no light task) and walked to the wonderful Bridge and the great *Arbor Vitæ* in Cedar Creek ravine. The park there is a preserve, so we could do no collecting, though beyond some unusually large specimens of *Camptosorus rhizophyllus* we did not see much that we coveted.

We retraced our steps at noon to Buchanan on the James

River, and from there started on our long drive over the mountain to the Peaks of Otter.

*Castanea pumila* was in bloom along the base of the mountains. So was *Spiræa Aruncus* higher up, the latter a most beautiful and ornamental plant. *Enothera glauca* and *Coreopsis verticillata* grew together under some sturdy *Pinus Virginiana*, and an interesting find was *Hieracium Marianum*, var. *spathulatum*,\* hitherto only reported from Two-top Mountain, Penn.

*Galium latifolium* was in bloom along the road, the upper woods were filled with the pretty, slender *Galax aphylla*, and all about us were dense forests of splendid trees. A bewildering succession of fine Oaks and Chestnuts, with here and there a dark stately Hemlock, an occasional *Magnolia acuminata* and slender bud-covered *Oxydendrum arboreum*.

At the top of what our driver called "The Pass," we came upon a swamp filled with *Kalmia latifolia* in full bloom, a miniature forest of dark, glossy-leaved shrubs, covered with great pink and white clusters of flowers. In that same swamp the tall, graceful *Amianthium muscætoxicum* towered high above its smaller companions, among which we gathered some very large-leaved *Anemone trifolia*, *Parthenium integrifolium*, and the fruit of the ever-present *Dioscorea villosa*. One of the last plants gathered that day was a new variety of *Senecio aureus*. †

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\* *Hieracium Marianum*, var. *spathulatum* (Sch. Bip), A. Gray, Syn. Flor. Gamopet. Suppl. Determined by Dr. Porter.—N. L. B.

† *Senecio aureus*, L., var. *angustifolius*, n. var. Growing in dense clumps a foot or two in diameter, on dry hillsides. Stems erect, slender, 18'-20' high, simple, their bases and nodes densely clothed with long, white wool; lower leaves linear or linear-oblong, long-petioled, the blades 3'-4' long, 6''-8'' wide, blunt at the apex, dentate all around, commonly with a few linear lobes at the base, the petioles slender, 3'-5' long, densely woolly below; upper leaves sessile, linear, pinnatifid; heads numerous, 3''-4'' high, many-flowered, rays 6-8; akenes very hispidulous.

Evidently nearest to var. *Balsamita*, but different from any state of that plant (which may be a species) that has come under my observation. A specimen collected at Chapel Hill, N. C., by Prof. J. A. Holmes, in 1886, is probably to be referred here, although the wool of the base and nodes is much less.—N. L. B.

The drive was a succession of beautiful views, and at seven P. M. we were at the foot of the Peaks, and there, to our consternation, we heard that a long, steep climb was to be the end of our journey that evening. The wagons were left at a small log hut, dignified by its owner with the title of stable; and laden with the necessary bags and the precious botany boxes, we started into the dark woods up a seemingly endless and perpendicular path. We stumbled along in the pitch darkness, till an old negro with a lantern came to our rescue and piloted us over the huge boulders that crowned the summit, to the log cabin that was to be our shelter that night. How our leader, carrying two bags and two botany boxes, ever got over those boulders alone and in the dark, without breaking his neck, was a mystery we could not solve when we saw the place by daylight.

Before retiring to our primitive rooms under the roof we were shown the sights. They were the lights of many towns and villages shining up out of the valleys below, and a flock of ghostly, wild, white Angora goats that frequent the summit after nightfall.

At five we were out for sunrise, and from the lee side of a big boulder watched the light come up from behind a great bank of dark clouds and gradually brighten, first the forest-clad mountain-tops, and then creep down into the misty valleys at our feet. It was a surprisingly beautiful panorama. On one side the undulating Virginia plain, and on the other, endless chains of misty blue mountain-ranges fading into the horizon.

But even the most enthusiastic of sight-seers tire on a cold rock at five A. M., and without looking at a plant we returned to the cabin, to wait for the sun to warm things up a little.

Among the stones on the summit we found the rare *Diclytra eximia* and plenty of the beautiful, rose-colored *Rhododendron Catawbiense* in full bloom, and also collected a few fine specimens of the showy white flowers of *Pyrus Americana*. After breakfast we climbed down over the pathless ledge into the woods below, where we found *Lilium Grayi* and *Melan-*



*thium parviflorum* in bud, and some astonishingly large and beautiful flowers of *Aquilegia Canadensis*. *Asarum arifolium* was flowering below the summit near a little spring, and the top of a group of huge boulders called The Needles was covered with the pretty *Paronychia argyrocoma*.

We collected some fine fruiting specimens of *Clematis verticillata*, and also found the fruit of many plants seen in flower ten days earlier on Salt Pond Mountain, and at noon we walked down to the stable, where we sat in the hay and put our plants into press.

Buchanan was reached on the return trip in time to collect our hand-luggage (which by that time, counting bags, botany boxes, plant presses, bundles of roots tied up in red bandannas, etc., for a party of seven, amounted to twenty-two pieces), and catch the Shenandoah Valley train that evening.

The next stop was at Luray, where the caves were visited, and we took a drive across the valley, but beyond the plants already mentioned as found there, we did not see anything very remarkable. Our steps were then turned homewards, and New York was reached at noon on June 10th. We had been away fifteen days and collected about 1,000 specimens, representing 71 orders, 195 genera and 215 species, as enumerated in the following list. A delightful trip, and one which I am sure we all hope may be repeated.

## VIRGINIAN PLANTS.

Collected by Hon. Addison Brown, Thos. Hogg, Anna Murray Vail, Millie Timmerman and Dr. and Mrs. N. L. Britton.

May 30th-June 9th, 1890.

*Clematis Addisonii*, Britt. Roanoke.

*Clematis viornioides*, Britt. (*C. Addisonii* x *C. Viorna*).  
Roanoke.

*Clematis Viorna*, L. Roanoke, Eggleston's.

*Clematis verticillaris*, D. C. Peaks of Otter.

*Anemone Virginiana*, L. Roanoke.

*Anemone quinquefolia*, L. Salt Pond Mountain.

*Anemone trifolia*, L. Salt Pond Mountain, Peaks of Otter.

*Anemone Hepatica*, L. Eggleston's.

ANEMONE ACUTA (Pursh). (*Hepatica triloba*, var. *acuta*,  
Pursh, Fl. Am., Sept., 391 (1814), *Hep. acutiloba*, D. C.  
Prod. i., 22 (1824).

*Thalictrum dioicum*, L. Salt Pond Mountain.

*Thalictrum purpurascens*, L. Roanoke.

TRAUTVETTERIA CAROLINIENSIS (Walter), *Hydrastis Caroli-*  
*niensis*, Walt. Fl. Car., 156 (1788), *Cimicifuga palmata*,  
Michx. Fl. Bor. Am., i., 316 (1803); *Traut. palmata*,  
Fish. & Mey.) Salt Pond Mountain.

*Ranunculus abortivus*, L. Salt Pond Mountain.

*Ranunculus sceleratus*, L. Roanoke.

*Ranunculus recurvatus*, L. Salt Pond Mountain.

*Ranunculus septentrionalis*, Poir. Salt Pond Mountain.

*Aquilegia Canadensis*, L. Roanoke, Salt Pond Mountain,  
Peaks of Otter.

*Delphinium Consolida*, L. Roanoke.

*Aconitum uncinatum*, L. Peaks of Otter.

*Actea alba* (L.), Bigelow. Salt Pond Mountain.

*Magnolia acuminata*, L. Salt Pond Mountain, Peaks of Otter.

*Asimina triloba* (L.), Dunal. Roanoke.

- Berberis Canadensis* (Ait.), Pursh. Eggleston's Cliffs.  
*Caulophyllum thalictroides* (L.), Michx. Salt Pond Mountain.  
*Podophyllum peltatum*, L. Salt Pond Mountain.  
*Chelidonium majus*, L. Salt Pond Mountain.  
*Diclytra eximia* (Ker.), D. C. Peaks of Otter.  
*Corydalis flavula*, D. C. Salt Pond Mountain.  
*Corydalis micrantha* (Engelm.), Gray. Roanoke.  
*Arabis Canadensis*, L. Salt Pond Mountain, Peaks of Otter.  
*Arabis lyrata*, L. Eggleston's.  
*Draba ramosissima*, Desv. Eggleston's.  
*Nasturtium officinale*, R. Br. Roanoke.  
*Barbarea vulgaris*, R. Br., var. *arcuata* (Reich), Koch.  
 Eggleston's.  
*Lepidium Virginicum*, L. Eggleston's.  
*Viola pedata*, L. Salt Pond Mountain, Peaks of Otter.  
*Viola pedata*, L., forma *bicolor* (Pursh), Britt. Salt Pond Mountain.  
*Viola palmata*, L. Eggleston's.  
*Viola obliqua*, Hill. Eggleston's, Salt Pond Mountain.  
*Viola obliqua*, Hill, forma *alba* (T. & G.) Salt Pond Mountain.  
*Viola sagittata*, Ait. Salt Pond Mountain.  
*Viola blanda*, Willd. Salt Pond Mountain.  
*Viola rotundifolia*, Michx. Salt Pond Mountain.  
*Viola pubescens*, Ait. Salt Pond Mountain.  
*Viola hastata*, Michx. Salt Pond Mountain.  
*Viola Canadensis*, L. Salt Pond Mountain.  
*Viola striata*, Ait. Salt Pond Mountain.  
*Dianthus Armeria*, L. Eggleston's.  
*Silene Virginica*, L. Roanoke, Salt Pond Mountain, Peaks of Otter.  
*Silene antirrhina*, L. Roanoke.  
*Arenaria serpyllifolia*, L. Radford.  
*Arenaria stricta*, Michx. Eggleston's.  
*Stellaria pubera*, Michx. Salt Pond Mountain.  
*Hypericum prolificum*, L. Roanoke.

- Tilia heterophylla*, Vent. Salt Pond Mountain.  
*Geranium maculatum*, L. Salt Pond Mountain.  
*Oxalis Acetosella*, L. Salt Pond Mountain.  
*Oxalis violacea*, L. Salt Pond Mountain.  
*Oxalis stricta*, L. Eggleston's.  
*Oxalis recurva*, Ell. Roanoke, Eggleston's.  
*Ilex montana*, A. Gray. Salt Pond Mountain, Peaks of Otter.  
*Celastrus scandens*, L. Peaks of Otter.  
*Euonymus atropurpureus*, Jacq. Roanoke.  
*Pachystima Canbyi*, A. Gray. Eggleston's Cliffs.  
*Ceanothus Americanus*, L. Peaks of Otter, Luray.  
*Vitis æstivalis*, Michx. Peaks of Otter.  
*Æsculus lutea*, Wang. Schrift. Nat. Fr. Berlin, viii., 133  
 (1788). *Æ. octandra*, Marsh. Arb. Amer., 4 (1785), not  
 Mill (1768). *Æ. flava*, Ait. Hort. Kew, i., 494 (1789).  
 Salt Pond Mountain.  
*Acer Pennsylvanicum*, L. Salt Pond Mountain.  
*Acer spicatum*, Lam. Salt Pond Mountain.  
*Rhus aromatica*, Ait. Eggleston's Cliffs.  
*Polygala Senega*, L. Salt Pond Mountain.  
*Baptisia tinctoria* (L.), R. Br. Salt Pond Mountain, Peaks of  
 Otter.  
*Lupinus perennis*, L. Peaks of Otter.  
*Trifolium arvense*, L. Roanoke.  
*Trifolium procumbens*, L. Roanoke.  
*Tephrosia Virginiana* (L.), Pers. Roanoke, Peaks of Otter.  
*Robinia Pseudacacia*, L. Peaks of Otter.  
*Lespedeza violacea* (L.), Pers. Roanoke.  
*Stylosanthes biflora* (L.), B. S. P. Peaks of Otter.  
*Vicia Americana*, Muhl. Peaks of Otter.  
*Lathyrus venosus*, Muhl. Peaks of Otter.  
*Prunus serotina*, Ehrh. Salt Pond Mountain.  
*Prunus Virginiana*, L. Peaks of Otter.  
*Spiræa corymbosa*, Raf. Peaks of Otter.  
*Spiræa Aruncus*, L. Peaks of Otter.  
*Physocarpa opulifolia* (L.), Raf. Peaks of Otter.  
*Gillenia trifoliata* (L.), Moench. Salt Pond Mountain.

- Rubus odoratus*, L. Peaks of Otter.  
*Potentilla Canadensis*, L. Salt Pond Mountain.  
*Rosa humilis*, Marsh. Roanoke.  
*Pyrus nigra* (Marsh.), Sargent. Salt Pond Mountain.  
*Pyrus Americana*, (Marsh.), D. C. Peaks of Otter.  
*Cratægus coccinea*, L. Salt Pond Mountain.  
*Cratægus punctata*, Jacq. Roanoke.  
*Cratægus Crus-galli*, L. Roanoke.  
*Amelanchier Canadensis*, var. *rotundifolia*, T. & Gr. Salt Lake  
 Mountain.  
*Saxifraga Virginiensis*, L. Peaks of Otter.  
*Saxifraga micranthifolia* (Haw.), B. S. P. Salt Pond Mountain.  
*Saxifraga leucanthemifolia*, Michx. Salt Pond Mountain.  
*Tiarella cordifolia*, L. Salt Pond Mountain.  
*Heuchera villosa*, Michx. Salt Pond Mountain, Eggleston's.  
*Heuchera Americana*, L. Peaks of Otter.  
*Heuchera pubescens*, Pursh. Roanoke.  
*Parnassia asarifolia*, Vent. Salt Pond Mountain.  
*Ribes Cynosbati*, L. Salt Pond Mountain.  
*Ribes rotundifolium*, Michx. Salt Pond Mountain.  
*Sedum Nevii*, Gray. Roanoke.  
*Sedum ternatum*, Michx. Salt Pond Mountain.  
*Callitriche heterophylla*, Pursh. Salt Pond Mountain.  
*Oenothera glauca*, Michx. Peaks of Otter.  
*Thaspium barbinode* (Michx.), Nutt. Peaks of Otter,  
 Roanoke.  
*Pimpinella integerrima* (L.), Benth. & Hook. Salt Pond  
 Mountain.  
*Zizia cordata*, Koch. Peaks of Otter.  
*Zizia Bebbii* (Coult. & Rose), Britt. Salt Pond Mountain.  
*Osmorhiza longistylis*, (Torr.), D. C. Salt Pond Mountain,  
 Roanoke.  
*Sanicula Marylandica*, L. Salt Pond Mountain.  
*Aralia nudicaulis*, L. Salt Pond Mountain.  
*Cornus florida*, L. Peaks of Otter.  
*Cornus alternifolia*, L. f. \* Salt Pond Mountain (Cascade).

- Viburnum lantanoides*, Michx. Salt Pond Mountain.  
*Viburnum nudum*, L. Salt Pond Mountain.  
*Diervilla trifida*, Mœnch. Peaks of Otter.  
*Triosteum perfoliatum*, L. Peaks of Otter.  
*Houstonia cœrulea*, L. Salt Pond Mountain.  
*Houstonia purpurea*, L., var. *longifolia* (Gaertn.), A. Gray.  
 Peaks of Otter, Salt Pond Mountain.  
*Mitchella repens*, L. Salt Pond Mountain, Natural Bridge.  
*Galium latifolium*, Michx. Eggleston's, Peaks of Otter.  
*Galium circæzans*, Michx. Eggleston's.  
*Erigeron bellidifolius*, Muhl. Salt Pond Mountain.  
*Erigeron Philadelphicus*, L. Eggleston's.  
*Filago Germanica*, L. Luray.  
*Antennaria plantaginifolia* (L.), Hook. Salt Pond Mountain.  
*Gnaphalium purpureum*, L. Roanoke.  
*Parthenium integrifolium*, L. Peaks of Otter.  
*Rudbeckia triloba*, L. Eggleston's.  
*Coreopsis verticillata*, L. Peaks of Otter.  
*Senecio aureus*, L. Culpeper.  
*Senecio aureus*, var. *Balsamitæ*. (Muhl.), Torr. & Gr. Peaks of Otter.  
*Senecio aureus*, L., var. *angustifolius*, Britt. Peaks of Otter.  
*Hieracium venosum*, L. Salt Pond Mountain, Roanoke.  
*Hieracium Marianum*, Willd., var. *spathulatum* (Sch. Bip.), A. Gray. Peaks of Otter.  
*Crepis pulchra*, L. Near Culpeper—railroad embankment.  
*Lobelia spicata*, L. Luray.  
*Gaylussacia resinosa* (Ait.), Torr. & Gray. Luray, Salt Pond Mountain.  
*Vaccinium stamineum*, L. Salt Pond Mountain.  
*Vaccinium Pennsylvanicum*, Lam. Salt Pond Mountain.  
*Vaccinium vacillans*, Solander. Salt Pond Mountain.  
*Vaccinium corymbosum*, L. Salt Pond Mountain.  
*Vaccinium erythrocarpon*, Michx. Salt Pond Mountain.  
*Oxycoccus macrocarpus* (Ait.), Pers. Salt Pond Mountain.  
*Epigæa repens*, L. Salt Pond Mountain.

- Andromeda ligustrina*, Muhl. Salt Pond Mountain, Peaks of Otter.
- Andromeda ligustrina*, Muhl. var. *pubescens*, A. Gray. Salt Pond Mountain.
- Oxydendrum arboreum* (L.), D. C. Eggleston's, Peaks of Otter.
- Kalmia latifolia*, L. Salt Pond Mountain, Peaks of Otter.
- Menziesia globularis*, Salisb. Salt Pond Mountain.
- Rhododendron canescens* (Michx.), Porter. Salt Pond Mountain, Peaks of Otter.
- Rhododendron calendulaceum* (Michx.), Torr. Salt Pond Mountain.
- Rhododendron Catawbiense*, Michx. Peaks of Otter.
- Chimaphila maculata* (L.), Pursh. Peaks of Otter.
- Galax aphylla*, L. Salt Pond Mountain, Peaks of Otter.
- Lysimachia quadrifolia*, L. Peaks of Otter.
- Samolus Valerandi*, L., var. *floribundus* (H. B. K.), B. S. P. Salt Pond Mountain.
- Diospyros Virginiana*, L. Roanoke.
- Apocynum androsæmifolium*, L.
- Apocynum cannabinum*, L. Salt Pond Mountain.
- Asclepias purpurascens*, L. Roanoke.
- Asclepias variegata*, L. Eggleston's, Peaks of Otter.
- Asclepias quadrifolia*, L. Salt Pond Mountain, Peaks of Otter.
- Gonolobus Carolinensis* (Jacq.), R. Br. Roanoke.
- Phlox ovata*, L. Near Eggleston's.
- Phlox divaricata*, L. Salt Pond Mountain.
- Hydrophyllum Virginicum*, L. Salt Pond Mountain.
- Phacelia parviflora*, Pursh. Salt Pond Mountain.
- Cynoglossum officinale*, L. Salt Pond Mountain.
- Cynoglossum Virginicum*, L. Roanoke.
- Myosotis laxa*, Lehm. Peaks of Otter, near Buchanan.
- Onosmodium Virginicum* (L.), D. C. Peaks of Otter.
- Onosmodium Carolinianum* (Lam.), D. C. Roanoke.
- Echium vulgare*, L. Buenavista.
- Convolvulus spithamæus*, L. Peaks of Otter.

- Linaria vulgaris*, Mill. Luray.
- Scrophularia nodosa*, L., var. *Marylandica* (L.), A. Gray.  
Peaks of Otter.
- Pentstemon hirsutus* (L.), Willd.
- Pentstemon lævigatus*, Sol. Roanoke.
- Pentstemon lævigatus*, Sol., var. *canescens*, Britt. Peaks of  
Otter, Roanoke, Luray.
- Veronica Anagallis*, L. Roanoke.
- Veronica officinalis*, L. Radford.
- Veronica serpyllifolia*, L. Mountain Lake.
- Veronica arvensis*, L. Radford.
- Castilleja coccinea* (L.), Spreng. Salt Pond Mountain.
- Pedicularis Canadensis*, L. Salt Pond Mountain.
- Epiphegus Virginiana* (L.), Bart. Salt Pond Mountain.
- Conopholis Americana* (L. f.), Wallr. Salt Pond Mountain.
- Aphyllon uniflorum* (L.), A. Gray. Salt Pond Mountain.
- Ruellia ciliosa*, Pursh, var. *ambigua*, A. Gray. Roanoke.
- Ruellia strepens*, L. Roanoke.
- Dianthera Americana*, L. Roanoke.
- Verbena angustifolia*, Michx. Roanoke, Luray.
- Salvia lyrata*, L. Roanoke.
- Monarda fistulosa*, L. Roanoke.
- Scutellaria saxatilis*, Riddell. Salt Pond Mountain.
- Scutellaria serrata*, Andrews. Salt Pond Mountain.
- Scutellaria pilosa*, Michx. Luray.
- Scutellaria nervosa*, Pursh. Salt Pond Mountain.
- Marrubium vulgare*, L. Roanoke.
- Leonurus Cardiaca*, L. Eggleston's.
- Paronychia argyrocoma*, Nutt. Peaks of Otter.
- Polygonum terrestre* (Michx.), Britt. Eggleston's.
- Polygonum Convolvulus*, L. Natural Bridge.
- Asarum Canadense*, L. Salt Pond Mountain.
- Asarum Virginicum*, L. Salt Pond Mountain (Cascade).
- Asarum arifolium*, Michx. Peaks of Otter.
- Aristolochia Siphon*, L'Her. Salt Pond Mountain.
- Euphorbia corollata*, L. Roanoke, Peaks of Otter, Luray.
- Euphorbia commutata*, Engelm. Roanoke.



- Euphorbia Lathyris*, L. Luray.  
*Laportea Canadensis* (L.), Gaud. Salt Pond Mountain.  
*Hicoria alba* (L.), Britt. Salt Pond Mountain.  
*Hicoria minima* (Marsh.), Britt. Salt Pond Mountain.  
*Alnus viridis*, D. C. Salt Pond Mountain.  
*Quercus alba*, L. Salt Pond Mountain.  
*Quercus ilicifolia*, Wang. Salt Pond Mountain.  
*Castanea pumila*, Mill. Peaks of Otter.  
*Pinus Strobus*, L. Salt Pond Mountain.  
*Liparis liliifolia* (L.), Richard. Eggleston's.  
*Goodyera repens* (L.), R. Br. Salt Pond Mountain.  
*Pogonia verticillata* (Willd.), Nutt. Salt Pond Mountain.  
*Habenaria bracteata* (Willd.), R. Br. Salt Pond Mountain.  
*Cypripedium parviflorum*, Salisb. Salt Pond Mountain, Peaks  
of Otter.  
*Cypripedium pubescens*, Willd. Salt Pond Mountain.  
*Cypripedium acaule*, Ait. Salt Pond Mountain, Peaks of  
Otter.  
*Sisyrinchium angustifolium*, Mill. Salt Pond Mountain,  
Eggleston's.  
*Hypoxis erecta*, L. Salt Pond Mountain, Eggleston's.  
*Dioscorea villosa*, L. Salt Pond Mountain.  
*Smilax Walteri*, Pursh. Eggleston's.  
*Smilax rotundifolia*, L. Salt Pond Mountain.  
*Smilax Pseudo-China*, L. Roanoke.  
*Convallaria majalis*, L. Salt Pond Mountain, Peaks of  
Otter.  
*Polygonatum commutatum*, (Schult), Dietr. Salt Pond Moun-  
tain.  
*Unifolium Canadense* (Desf.), Greene. Salt Pond Mountain.  
*Unifolium racemosum* (L.) Britt. Salt Pond Mountain.  
*Disporum lanuginosum* (Michx.), Britt. Salt Pond Moun-  
tain.  
*Clintonia borealis* (Ait.), Raf. Salt Pond Mountain.  
*Clintonia umbellata* (Poir.), Torr. Salt Pond Mountain.  
*Uvularia perfoliata*, L. Salt Pond Mountain.  
*Uvularia puberula*, Michx. Salt Pond Mountain.

- Lilium Grayi*, S. Wats. Salt Pond Mountain, Peaks of Otter.  
*Medeola Virginiana*, L. Salt Pond Mountain, Peaks of Otter.  
*Trillium erectum*, L. Salt Pond Mountain.  
*Trillium grandiflorum*, Salisb. Salt Pond Mountain.  
*Trillium erythrocarpum*, Michx. Salt Pond Mountain.  
*Chamælorium luteum* (L.), A. Gray. Salt Pond Mountain.  
*Melanthium parviflorum* (Michx.), S. Wats. Salt Pond Mountain, Peaks of Otter.  
*Veratrum viride*, Ait. Salt Pond Mountain.  
*Amianthium muscætoxicum* (Walt.), A. Gray. Peaks of Otter.  
*Tradescantia Virginica*, L. Salt Pond Mountain.  
*Luzula campestris* (L.), D. C. Salt Pond Mountain.  
*Arisæma triphyllum* (L.), Torr. Salt Pond Mountain.  
*Carex intumescens*, Rudge. Salt Pond Mountain.  
*Carex lurida*, Wahl., var. *gracilis*, Boott. Salt Pond Mountain.  
*Carex scabrata*, Schw. Salt Pond Mountain, Peaks of Otter.  
*Carex prasina*, Wahl. Salt Pond Mountain.  
*Carex gynandra*, Schw. Salt Pond Mountain, Peaks of Otter.  
*Carex æstivalis*, Curtis. Peaks of Otter.  
*Carex laxiflora*, Lam., var. *latifolia*, Boott. Salt Pond Mountain.  
*Carex platyphylla*, Carey. Eggleston's.  
*Carex communis*, Bailey. Peaks of Otter.  
*Carex polytrichoides*, Muhl. Salt Pond Mountain.  
*Carex stipata*, Muhl. Salt Pond Mountain.  
*Carex rosea*, Schk. Salt Pond Mountain.  
*Carex rosea*, Schk., var. *radiata*, Dewey. Peaks of Otter.  
*Carex canescens*, L. Salt Pond Mountain.  
*Carex canescens*, L., var. *brunescens* (Pers.), Boott. Salt Pond Mountain.  
*Carex echinata*, Murray. Salt Pond Mountain.  
*Carex adusta*, Boott. Peaks of Otter.  
*Carex scoparia*, Schk. Peaks of Otter.  
*Carex cephalophora*, Schk. Eggleston's.  
*Panicum latifolium*, L., var. *molle*, Vasey. Salt Pond Mountain.

- Panicum clandestinum*, L. Salt Pond Mountain, Peaks of Otter.
- Panicum depauperatum*, Muhl. Salt Pond Mountain.
- Arrhenatherum elatius* (L.), Mert. & Koch. Roanoke.
- Holcus lanatus*, L. Luray.
- Trisetum Pennsylvanicum* (L.), B. S. P. Peaks of Otter.
- Danthonia spicata* (L.), Beauv. Peaks of Otter.
- Eatonia Dudleyi*, Vasey. Salt Pond Mountain, Eggleston's.
- Melica diffusa*, Pursh. Roanoke.
- Poa brevifolia*, Muhl. Salt Pond Mountain.
- Glyceria elongata* (Torr.), Trin. Peaks of Otter.
- Glyceria nervata* (Willd.), Trin. Salt Pond Mountain.
- Festuca nutans*, Spreng. Salt Pond Mountain, Eggleston's.
- Festuca elatior*, L. Roanoke.
- Bromus racemosus*, L. Long Bridge, Alexandria.
- Bromus purgans*, L. Eggleston's.
- Equisetum hyemale*, L. Roanoke River.
- Cheilanthes vestita*, Swartz. Banks of Roanoke River.
- Pellæa atropurpurea* (L.), Link. Roanoke, Eggleston's.
- Asplenium Trichomanes*, L. Cascade on Salt Pond Mountain.
- Asplenium parvulum*, Mart. & Gal. Eggleston's Cliffs, Roanoke Cliffs.
- Asplenium platyneuron* (L.), Oakes. Salt Pond Mountain.
- Asplenium montanum*, Willd. Salt Pond Mountain, Peaks of Otter.
- Asplenium Ruta-muraria*, L. Eggleston's, Roanoke.
- Camptosorus rhizophyllus* (L.), Link. Salt Pond Mountain, Eggleston's, Natural Bridge.
- Aspidium spinulosum*, Swartz, var. *dilatatum*, Hook. Salt Pond Mountain.
- Aspidium acrostichoides* (Michx.), Sw. Salt Pond Mountain.
- Cystopteris bulbifera* (L.), Bernh. Salt Pond Mountain.
- Woodsia obtusa* (Spreng.), Torr. Roanoke.
- Osmunda Claytoniana*, L. Salt Pond Mountain.
- Botrychium Virginianum* (L.), Swartz. Peaks of Otter.
- Lycopodium lucidulum*, Michx. Salt Pond Mountain.
- Lycopodium obscurum*, L. Salt Pond Mountain.

## LIST OF THE MOSSES COLLECTED.

BY ELIZABETH G. BRITTON.

The mosses collected were not many nor of special interest, with one exception. At the spring on the Peaks of Otter, on the vertical face of shaded rock, was collected a sterile *Grimmia*, which on examination proves to be *G. Hartmanni*, a species new to the United States, since the specimens collected by Mr. Leiberg prove not to be that species; associated with it was *Swartzia montana*, also sterile. The following is the list of species:

- Bartramia pomiformis*, Hedw. Cascades, Little Stony Creek.  
*Dicranum scoparium* (L.), Hedw. Mountain Lake.  
*D. montanum*, Hedw. Little Stony Creek.  
*Swartzia montana* (Lamk.), Lindb. Peaks of Otter.  
*Fissidens subbasilaris*, Hedw. Roanoke River, Mountain Lake  
*Georgia pellucida* (L.), Rab. Bald Knob, Cascades of Little Stony Creek.  
*Webera sessilis* (Schmid.), Lindb. (*Diphyscium foliosum*, W. & M.) Peaks of Otter.  
*Mollia æruginosa* (Sm.), Lindb. (*Gymnostomum rupestre*, Schwægr.) Cascades.  
*Polytrichum formosum*, Hedw. Salt Pond Mountain.  
*Grimmia campestris*, Burchell (*G. leucophæa*, Grev.) Peaks of Otter.  
*Grimmia Hartmanni*, Br. & Sch. At the spring, Peaks of Otter.  
*Weissia Americana* (P. Beauv.), Lindb. (*Ulota Hutchinsia*, Schimp.) Bald Knob.  
*W. ulophylla*, Ehrh. (*U. crispa*, Brid.) Bald Knob, Peaks of Otter.  
*Drummondia clavellata*, Hook. Bald Knob, Peaks of Otter.  
*Bryum bimum*, Schreb. Mountain Lake.  
*B. roseum*, Schreb. Mountain Lake, Peaks of Otter.  
*Pohlia nutans* (Schreb.), Lindb. (*Webera nutans*, Hedw.) Cascades, Peaks of Otter.

- P. elongata*, Hedw. (*W. elongata*, Schwægr.) Mountain Lake, Cascades.
- Mnium cuspidatum*, Hedw. Mountain Lake.
- M. punctatum* (L.), Hedw. Mountain Lake.
- Fontinalis Dalecarlica*, Br. & Sch. Mountain Lake, Cascades of Stony Creek.
- Anomodon obtusifolius*, Br. & Sch. Roanoke.
- Climacium Americanum*, Brid. Mountain Lake.
- C. dendroides*, Web. & Mohr. Bald Knob, Salt Pond Mountain.
- Cylindrothecium cladorhizans*, Schimp. Peaks of Otter.
- Leucodon brachypus*, Brid. Roanoke, Mountain Lake, Peaks of Otter.
- Neckera pennata*, Hedw. Mountain Lake.
- Thuidium abietinum* (L.), Br. Eu. Bald Knob, Salt Pond Mountain.
- Brachythecium salebrosum*, Hoffm. Little Stony Creek, Mountain Lake.
- Plagiothecium Muhlenbeckii*, Spruce. Bald Knob, Cascades of Little Stony Creek.
- P. denticulatum*, L. Cascades of Little Stony Creek.
- Hypnum curvifolium*, Hedw. Little Stony Creek, Mountain Lake.
- H. imponens*, Hedw. Little Stony Creek, Mountain Lake.
- H. cupressiforme*, L. Little Stony Creek, Mountain Lake.  
var. *filiforme*, Brid. Bald Knob, Salt Pond Mountain.
- Amblystegium radicale*, Beauv. Little Stony Creek, Mountain Lake.
- Campylium chrysophyllum*, Brid. Mountain Lake, Cascades of Little Stony Creek.
- Rhytidium rugosum* (L.) Bald Knob, Mountain Lake, Peaks of Otter.
- Hylocomium parietinum* (L.), Lindb. (*H. Schreberi*, Willd.) Bald Knob.
- H. brevirostre*, Br. & Sch. Bald Knob, sterile. Cascades, fruiting.
- Hypnum stramineum*, Dicks. With *Dicranum*, on logs in Mountain Lake.

## ON THE AUTUMN FLORA OF SOUTH-EASTERN VIRGINIA.

BY ARTHUR HOLLICK.

During the month of September Dr. N. L. Britton proposed that we should make a trip to Southeastern Virginia, in order to study the autumn flora of that region, and with that end in view we made Norfolk our headquarters. We arrived at Norfolk September 25th, and immediately commenced collecting. A branch of the Elizabeth River extends well up into the city, and along these banks were found a large number of the representative plants of the region. *Solidago Canadensis*, var. *procera*, *S. Caroliniana*, *Eupatorium serotinum*, *E. perfoliatum*, *Baccharis halimifolia* and *Verbesina Sigesbeckii* made up the bulk of the vegetation. *Smilax Bona-nox* was plentiful, and was the prevailing species. *Quercus Phellos* was common, and seemed a favorite tree for roadside planting in the city. Early on the morning of the 26th we started for Virginia Beach, a portion of the coast near the mouth of Chesapeake Bay. Here we obtained an excellent idea of the coast flora and added two new plants to the known flora of Virginia, viz.: *Eleocharis ochreatea* and *Panicum gibbum*. In the sandy swamps and along the borders of ponds, immediately back of the beach, were *Ilex opaca*, the size of forest trees, and with it were *I. vomitoria* and *I. Cassine*. *Vitis rotundifolia* was found clambering everywhere over the bushes. Locally this grape is known as "bullace grape," and even in its primitive state it is not unpalatable when perfectly ripe. This is the species from which the "Scuppernong" is said to have been derived,—a variety much used for the table,—as we ascertained at Norfolk, where they were served regularly three times a

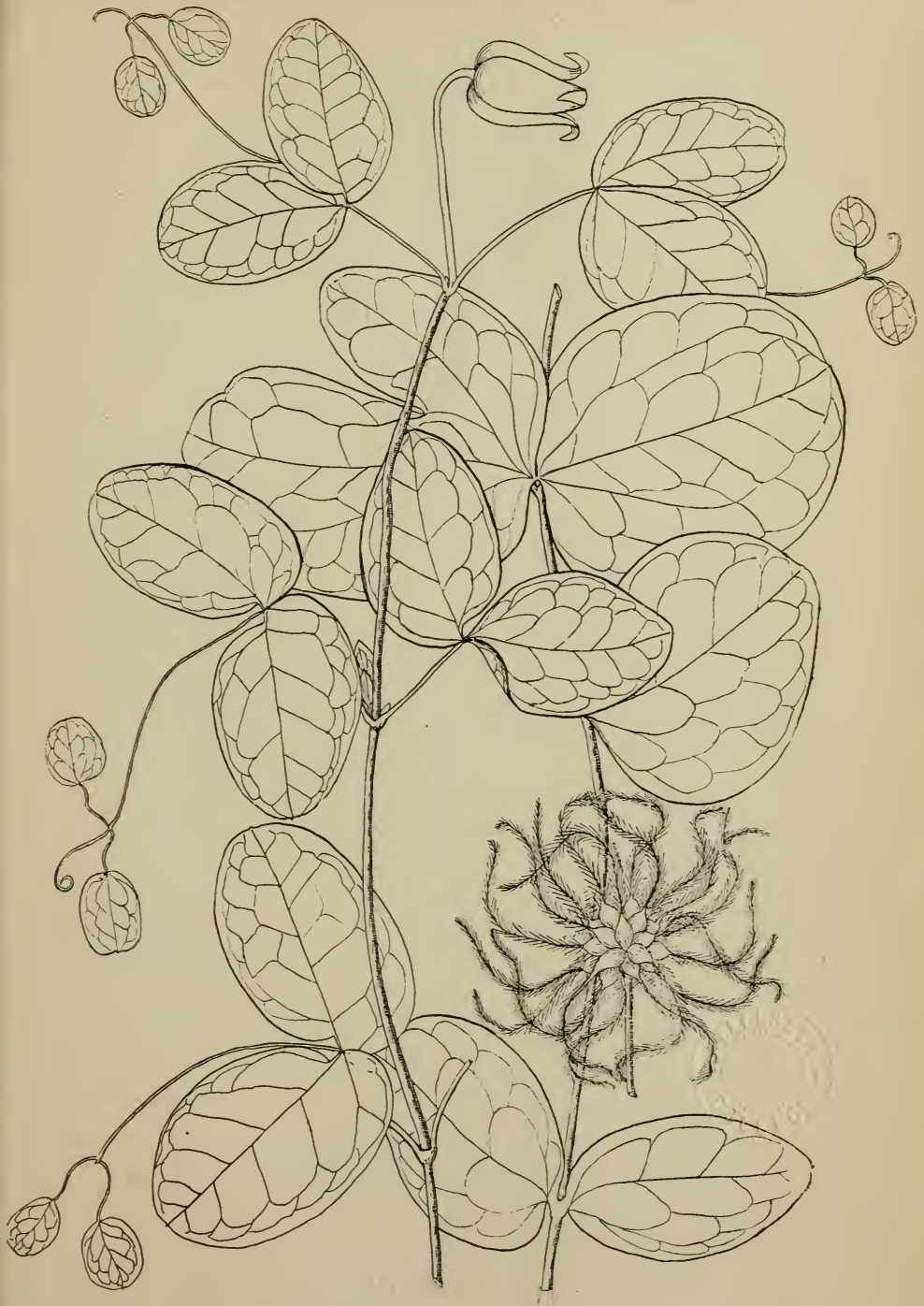
day. *Hydrocotyle umbellata* and *H. Asiatica* were plentiful in the wet sand. The genus *Eupatorium* was well represented; for in addition to the species collected the previous day at Norfolk we found *E. rotundifolium*, *E. hyssoifolium*, *E. caelestinum*, with its showy blue corymbs, and *E. fœniculoides*, which was one of the most conspicuous objects in the landscape in places. Whole fields seemed to be in its possession, and the long feathery panicles were singularly graceful in appearance. Trailing over the ground and bushes, and climbing high in trees, we were surprised to find *Gelsemium sempervirens* in full flower and with many buds partly opened, although the time of flowering is said to be March and April. *Callicarpa Americana*, with its showy red-purple clusters of berries, was a beautiful object, rather sparingly represented. *Lechea maritima* was collected on the dry sand dunes, and *Oenothera humifusa* on the sea beach just above high-water mark. In addition to the above mentioned, about forty others were obtained, including *Rynchospora glomerata*, var. *paniculata*.

On the 27th we took the railroad to Suffolk, and from thence secured two canoes and boatmen to paddle us up the old canal into the Dismal Swamp. This canal was cut through the swamp for the purpose of floating out timber. It averages some 4 or 5 ft. deep, and about 10 ft. wide, and a journey of about six miles by this means enabled us to form an excellent idea of the vegetation. Throughout several miles there was a dense growth of "cane-brake" on each side. (*Arundinaria macrosperma*, var. *suffruticosa*.) The genus *Ilex* was represented by *I. Cassine*, *I. lævigata* and *I. glaber*. *Smilax laurifolia* was omnipresent. Less common was *S. Walteri*, specimens of which were found with light yellow berries tinged with red, for which the name forma *pallida* is proposed. I was especially interested in noting several trees of *Quercus heterophylla*, not only because this increases the range of the tree, but also on account of finding it associated as usual with *Q. Phellos* and *Q. rubra* or possibly *Q. tinctoria*, between which latter I was

in doubt on account of not finding any fruit. The only other representative of the genus present was *Q. aquatica*. *Nyssa biflora* and *N. sylvatica* were amongst the most conspicuous trees. *N. uniflora*, under the name of "poison oak," was not so common. My negro boatman warned me not to touch this tree on account of its poisonous properties, but as no evil effects have yet ensued from handling the specimens I do not place much faith in the legend. *Leucothoe racemosa*, *Andromeda ligustrina* and several other shrubs were collected indiscriminately, and amongst them we found, on more careful examination, *Andromeda nitida*, another addition to the flora of the region. *Gerardia purpurea*, with white flowers (forma *albiflora*), was growing on the banks of the canal. *Utricularia purpurea* was abundant in places close to the banks, and masses of *Eriophorum Virginicum* were frequent. A single specimen representing a variety of *Rynchospora axillaris* was obtained. Most all of the large trees were cut for timber many years since, and although there are a few specimens of *Taxodium distichum*, they are only of small second growth, with "knees" very little developed. A peculiar delicate bell-shaped fungus frequently infests the branches of this tree, giving the young ones the appearance of ericaceous shrubs. *Nesæa verticillata*, with splendidly developed ærenchymous branches, bordered the canal for miles. On the roadside between Suffolk and the canal a dense growth of a clover-like plant attracted our attention, which turned out to be *Lespedeza striata*, a still further addition to the flora of the region. *Oxydendrum arboreum*, *Solidago puberula* and *Chrysopsis graminifolia* were also collected along the said roadside.

Our intention had been to explore the vicinity of Fortress Monroe on the 28th and 29th, but stormy weather prevented. There is but little doubt that many new and interesting finds await the botanist in this region, as indicated by the four species new to the State added in two days' collecting so late in the season, and 113 other species which we found of sufficient interest to bring back with us.





CLEMATIS ADDISONII, BRITT.  
(Slightly reduced in engraving)





ANEMONE TRIFOLIA, L.

(Plant natural size; fruit enlarged.)

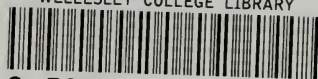
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