

# TORREYA

July, 1918

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No. 7

## THE FLORA OF INDIAN LADDER AND VICINITY; TOGETHER WITH DESCRIPTIVE NOTES ON THE SCENERY

BY STEWART H. BURNHAM

(Continued from June TORREYA)

July 21, 1907. We left the city on the morning train. Fields and banks near Delmar bright with rabbit-foot clover and black-eyed Susans. Visited Tory House, and from thence along the brow of the cliffs to Helmus Crack and Hailes' Cavern. The cave is being enlarged at the entrance, and one can walk in without stooping much, although a considerable stream of water is flowing from it to-day. The station for *Placodium elegans* (Link) Ach. has been destroyed. Prof. John H. Cook, whom we met, told us that he found, when exploring the cave a year ago, that one could go about 3,000 feet, and that the last 1,600 feet one was obliged to hitch along on one side. It extends farther, but had fallen in. Hailes measured it off inaccurately with a pedometer (not being able to walk)  $2\frac{1}{2}$  miles, but the real distance is less than three fifths of a mile.

Returning, we took the path along the base of the cliffs past the waterfalls, both of which were fine to-day, on account of a heavy thunder shower in this section last evening, which filled the streams from bank to bank. There is much spray about the waterfalls, and a growing rainbow near the foot of Mine Lot Fall. After resting on Table Rock, we proceeded to East Cliff, past a temporary camp on the brow of the old man's face. On the way, in the woods, we found *Erineum* galls on the leaves of *Quercus rubra* L. and *Acer Saccharum* Marsh. The linden, *Tilia*

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*americana* L., trees are beginning to open their fragrant yellowish green flowers. A week ago there was no water in the stream by Washburn's cottage, but to-day it is full banked and falling to the Fallen Rocks.

Resting again at the flag pole, we then descended the short cut trail to the base of the cliff, and then struck northward through a raspberry thicket and over fallen logs. On entering the woods, one finds the Bear path without trouble, although the trail is fairly well beaten; but few venture here. It is a walk of about one fourth of a mile to Fallen Rocks, and on the way one passes "Sentinel Rock." The path is edged with lovely mosses and ferns, wall rue in great abundance, the graceful fronds of the bladder fern, three feet long; fronds of the slender cliff-brake, nearly a foot long, the walking fern and the purple cliff-brake higher on the cliffs. Rock polypody is not so very common and is usually seen along the brow of the upper cliff.

The Bridal Veil and the talus slope of "Fallen Rocks" is one of the grandest spots yet seen in the Helderbergs. The scenery and picturesqueness of the place has but few equals in the capital district of the Empire State. The last great fall of rock was about 1830 or 1834, causing a considerable earth jar and dust to fill the air for two or three days. Here one of the camps of other days is called "Elverslide," near the mouth of a large fault cavern, turning abruptly at right angles, through which one can pass and scramble. Overhead are immense rocks caught in the fault. The giant "Monolith" is a huge upright rock, 75 feet high, standing on a pedestal, a very few feet from the side of the cliff. Late in the afternoon we descended the talus slope to a deep fern glade, shaded by canoe birch and other deciduous trees.

The following plants were observed or collected: *Peltigera horizontalis* (L.) Hoffm.

*Brachythecium rutabulum* (L.) B. & S.; *Bryum intermedium* Brid.; *Campylium chrysophyllum* (Brid.) Bryhn; *Encalypta streptocarpa* Hedw.; *Gymnostomum curvirostre* (Ehrh.) Hedw., foot of Mine Lot, forming a fine calcareous tufa; *Mnium spinulosum* B. & S.; *Orthotrichum anomalum* Hedw. on rocks; *Rhodo-*

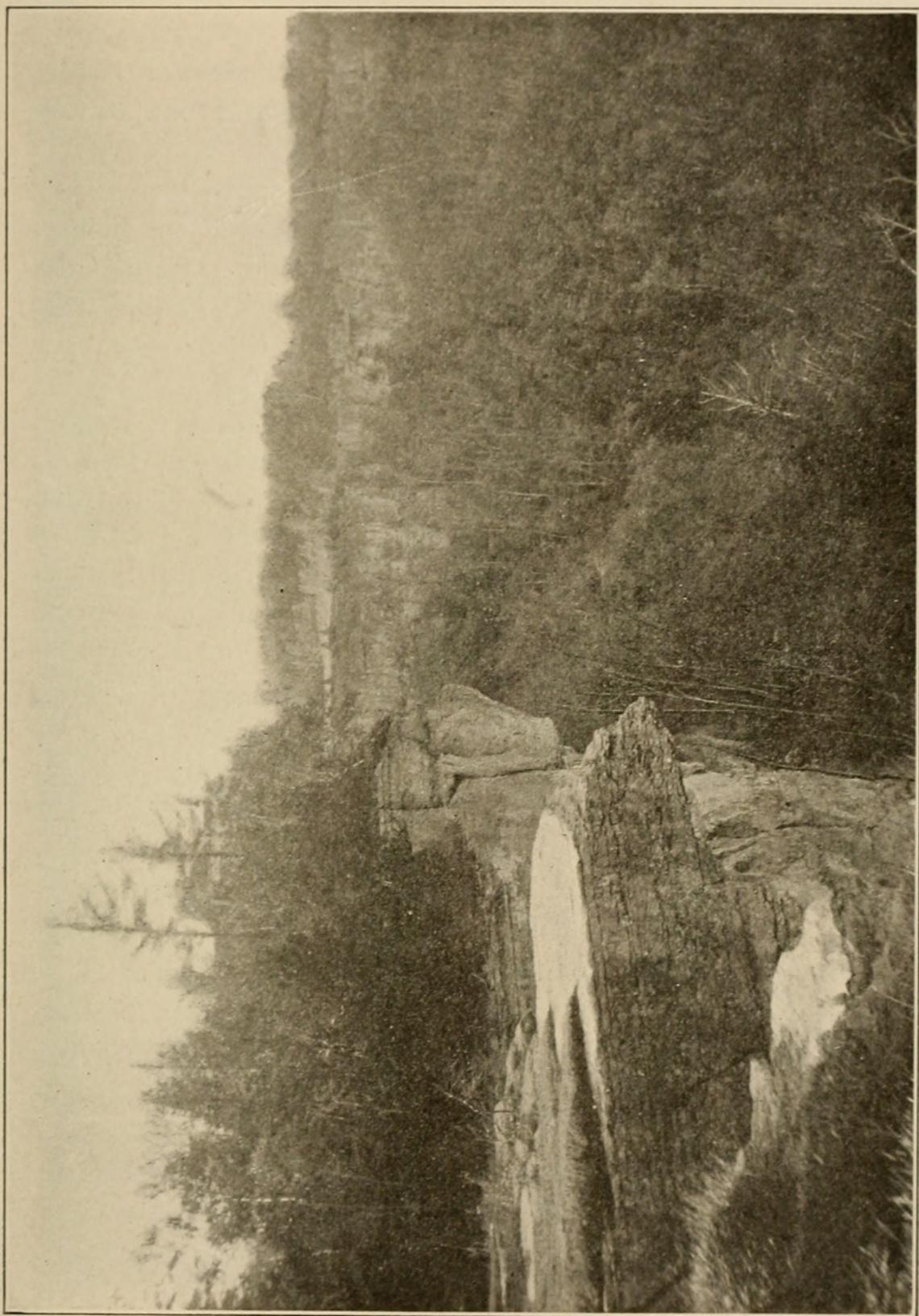


FIG. 6. Table Rock at the crest of Mine Lot Fall, looking into the main amphitheatre.

*bryum roseum* (Weis.) Limpr.; and *Thuidium abietinum* (L.) B. & S., not rare along the brow of the cliffs.

*Agropyrum caninum* (L.) R. & S.; *Carex eburnea* Boott; *Circaea lutetiana* L. with the rust *Puccinia Circaeae* Pers. attacking the leaves.

October 26, 1907. An afternoon at Indian Ladder; very pleasant and cool out of doors, and the autumn leaves falling. But little water in Black creek: and ice beginning to form at the base of the waterfalls. Near the head of Indian Ladder road found *Dermatocarpon miniatum* (L.) Fr. on the cliffs.

*Chenopodium hybridum* L.; and *Cerastium arvense* L. in flower.

May 16, 1908. To the Helderbergs in the afternoon. Dandelions yellowing the hills in the valley. The *Equisetum fluviatile* L., about one half grown, in wet places near Voorheesville. The Bridal Veil Fall very beautiful and flimsy. The breaking away of the rocks, during the past winter, from the cliffs, in several places is quite noticeable; and a small landslide has taken out some of the short cut trail from East Cliff.

Collected and observed: *Gymnosporangium clavariaeforme* (Jacq.) DC. on *Juniperus sibirica*.

*Collema pulposum* (Bernh.) Ach. on earth; and *Parmelia cetrata* Ach. on trunks of *Juglans cinerea* L.

*Bartramia Oederi* (Gunn.) Swtz. and *Mnium affine ciliare* (Grev.) CM.

*Botrychium virginianum* (L.) Sw.

*Carex platyphylla* Carey; *Arisaema triphyllum* (L.) Torr.; *Trillium erectum* L., one plant with a sessile flower; *Uvularia grandiflora* J. E. Sm.; *Actaea rubra* (Ait.) Willd.; *Mitella diphylla* L.; *Waldsteinia fragarioides* (Mx.) Tratt., with flowers as bright yellow as the yellow violet; *Polygala paucifolia* Willd.; *Viola canadensis* L.; *Viola conspersa* Reichenb.; *Vaccinium angustifolium* Ait. (*V. pennsylvanicum* Lam.) and *Antennaria plantaginifolia* (L.) Richards.

June 7, 1908. Left the city on the morning train. Near Voorheesville saw *Iris versicolor* L.; *Nymphaea advena* Soland, in wet pools; *Kalmia angustifolia* L. and *Lysimachia quadrifolia* L. Along the railroad track at Voorheesville *Bromus tectorum* L.; *Convolvulus arvensis* L. and *Galium Mollugo* L.

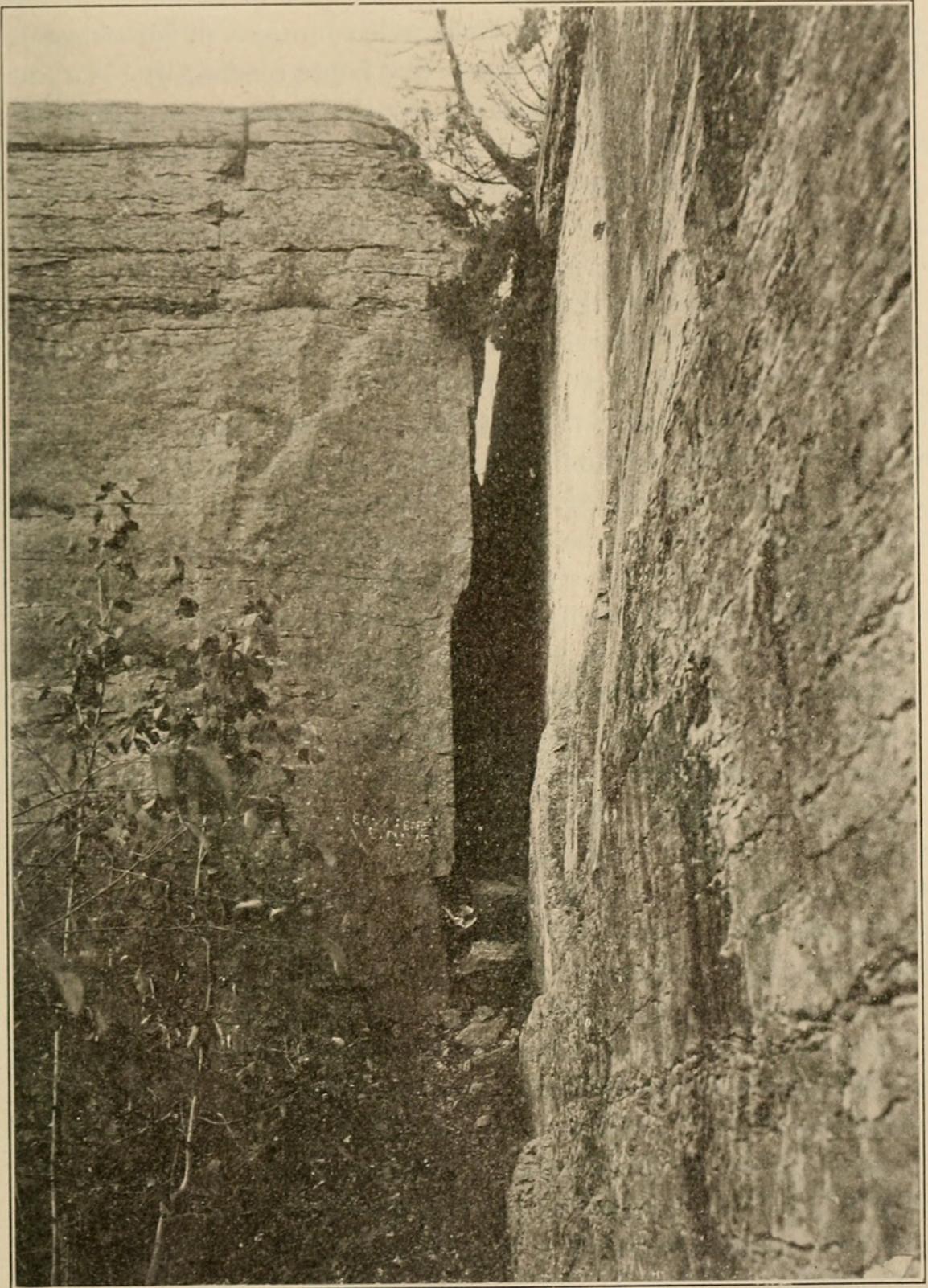


FIG. 7. Helmus Crack.

I had intended to have gone to the base of Bridal Veil, but found the swampy woods about a mile southeast of Meadowdale so interesting that I spent about five hours reading beside a fine spring, with a smudge fire to keep the mosquitoes partly off. What is more delightful than to breathe the smoke of an outdoor fire, and to watch it circle through the trees? A half rock fireplace was built; and on a fire was laid a few moist pieces of wood. Hermit thrushes, blue jays, crows and many other birds.

Visited an old forsaken house, wood-colored and with a long, low shingle roof. Meadows stand high with grass. Several ripe strawberries. While at the spring a man came for water, and later a foreign woman, barefoot, who could not speak much English. I am told that floods in the spring are partly the cause of the embankment along the lower course of Black creek. The boulders form a bank four or five feet high, especially along the bank, opposite the sharp angle of the stream.

A fine lot of *Cypripedium reginae* Walt., flowering three weeks earlier than last season, was found in the swamp woods. Much *Toxicodendron vernix* (L.) Ktze. grows in this swamp, but to neither poison sumac or poison ivy am I susceptible. Twenty plants of the showy lady's-slipper were brought back to the city, and I was poisoned, by the volatile oil from the hairs, on the wrists of both arms, as it was a warm day. The poison was troublesome for about a week, and relieved in part by applications of strong alcohol. Miss Alice E. Bacon in *Rhodora* 4: 94-97. May 1902 gives a good account of *Cypripedium* poisoning; also in *Vt. Bot. Club Bull.* 4: 13-14. April 1909.

Along the roadside and in dry fields about a mile southeast of Meadowdale the following plants: *Pinus rigida* Mill.; *Carex straminea* Willd.; *Unifolium canadense* (Desf.) Greene; *Comandra umbellata* (L.) Nutt.; *Arenaria serpyllifolia* L.; *Rosa rubiginosa* L.; *Vitis vulpina* L.; *Cornus Amomum* Mill.; *Cornus femina* Mill. (*C. candidissima* Marsh.); flowering dogwood, *Cynoxylon floridum* (L.) Raf.; *Gaylussacia baccata* (Wang.) C. Koch (*G. resinosa* (Ait.) T. & G.); *Polycodium stamineum* (L.) Greene, not rare; *Lysimachia quadrifolia* L.; *Convolvulus spithameus* L.; *Diervilla Diervilla* (L.) MacM.; and in a meadow *Hieracium aurantiacum* L. and *Hieracium florentinum* All.

In a very wet bog on the west side of the road, with a small spot of sphagnum. *Calla palustris* L. and *Sarracenia purpurea* L. Under the white pine trees about the bog, *Coptis trifolia* (L.) Salisb. and *Linnaea americana* Forbes.

In the partly overgrown swamp on east side of the road, which contains but little sphagnum. *Calypogeia Trichomanis* (L.) Cda. and *Cephalozia pleniceps* (Aust.) Lindb., at the base of a tamarac, determined by Miss Annie Lorenz; *Lophocolea heterophylla* (Schrad.) Dum. on old logs, determined by Miss Lorenz; *Ptilidium pulcherrimum* (Web.) Hampe on coniferous wood; and *Trichocolea tomentella* (Ehrh.) Dum.

*Amblystegium varium* (Hedw.) Lindb.; *Brachythecium rivulare* B. & S.; *Campylium stellatum* (Schreb.) Bryhn; *Hypnum Haldanianum* Grev. on old logs, determined by Miss E. A. Warner; *Hypnum recurvans* (Mx.) Schwaegr.; *Mnium punctatum* L. and *Sphagnum magellanicum* Brid.

*Osmunda cinnamomea* L.; *Dryopteris thelypteris* (L.) A. Gray and *Pteridium aquilinum* (L.) Kuhn.

*Larix laricina* (DuRoi) Koch; *Taxus canadensis* Marsh.; *Carex diandra* Schrank. (*C. teretiuscula* Gooden.); *Carex flava* L.; *Carex hystricina* Muhl.; *Carex leptalea* Wahl.; *Carex platyphylla* Carey in dry soil; *Carex stipata* Muhl.; *Carex stricta* Lam.; *Eriophorum viridicarinatum* (Engelm.) Fernald; *Spathyema foetida* (L.) Raf.; *Vagnera stellata* (L.) Morong; *Limodorum tuberosum* L.; two plants of white adder's mouth, *Malaxis monophylla* (L.) Sw.; *Alnus rugosa* (DuRoi) K. Koch; *Caltha palustris* L.; *Drosera rotundifolia* L.; *Benzoin aestivale* (L.) Nees; *Chrysosplenium americanum* Schwein.; *Mitella nuda* L.; *Grossularia hirtella* (Mx.) Spach (*Ribes oxyacanthoides* of Am. auth.); *Rubus nigrobaccus* Bailey; *Rubus procumbens* Muhl. in dry soil; *Rubus triflorus* Richards.; *Amelanchier canadensis* (L.) Medic; *Amelanchier intermedia* Spach; *Aronia arbutifolia* (L.) Ell.; *Aronia melanocarpa* (Mx.) Britton; *Acer spicatum* Lam.; *Rhamnus alnifolia* L'Her.; *Viola cucullata* Ait.; *Aralia nudicaulis* L.; *Aralia racemosa* L.; dwarf cornel, *Chamaepericlymenum canadense* (L.) Asch. & Graeb.; *Gaultheria procumbens* L.; *Xolisma ligustrina* (L.) Britton; *Gaylussacia baccata* (Wang.) C. Koch;

*Vaccinium atrococcum* (A. Gray) Heller; *Vaccinium corymbosum* L.; *Naumburgia thrysiflora* (L.) Duby; *Menyanthes trifoliata* L.; *Veronica americana* Schwein.; *Lonicera canadensis* Marsh.; *Lonicera dioica* L.; *Viburnum dentatum* L.; *Petasites palmata* (Ait.) Gray and *Solidago patula* Muhl.

June 21, 1908. We left for Indian Ladder on the morning train. Most of the streams were dry, and only water at Mine Lot Fall. We went into Hailes' Cavern past the elbow, where one can stand erect. The calcareous rocks show decidedly the smoothing and polishing by water. The boat, which was lowered from the brow of the cliff a year or two ago, was stored under the roof of the cavern, near the entrance. Since the opening has been enlarged, and the channel of the stream from the cave deepened at the mouth four or five feet there can be but little water here now, except during continued rains or the early spring. Some of the natural beauty of the spot has been destroyed forever. The bladder fern is very fine this season, the long tapering fronds standing almost upright at openings at the base of the cliffs.

Collected and observed the following: *Leptothryium Periclymeni* (Desm.) Sacc. on leaves of *Lonicera canadensis*, and *Sorosporium Saponariae* Rud., deforming the flower clusters of *Cerastium arvense*, verified by Dr. G. P. Clinton and only reported previously in America by Prof. A. O. Garrett on *Silene Menziesii* in Utah; a portion of the collection was deposited in the State Herbarium.

*Hygrohypnum palustre* (Huds.) Loeske, on wet rocks at base of Mine Lot, determined by Miss Warner and Dr. G. N. Best; and *Hypnum imponens* Hedw.

*Filix fragilis* (L.) Underw.

*Arenaria serpyllifolia* L.; *Arenaria stricta* Mx.; *Anemone riparia* Fernald, dry rocky soil; *Sassafras Sassafras* (L.) Karst., pasture below Fallen Rocks; *Fragaria americana* (Porter) Britton; *Rosa virginiana* Mill.; *Apocynum hypericifolium* Ait. along stream; *Lappula virginiana* (L.) Greene, depauperate and with bluish-white flowers, foot of Bridal Veil Fall; and *Pentstemon hirsutus* (L.) Willd.

July 18, 1908. To Meadowdale for the afternoon. *Castalia odorata* (Dryand.) Woodv. & Wood, in shallow water and smaller pools than usual; and *Asclepias incarnata* L. along the railroad Voorheesville to Meadowdale.

Visited the bog on the right-hand side of the road up the little hill about a mile southeast of Meadowdale. This bog, designated as (No. 1)—“Woodwardia bog”—was dry enough to get on; although it was surrounded by water and ooze a few weeks ago. Crossing the fields towards Indian Ladder, one reaches the road bearing in the direction of Countryman Hill; one passes two or three houses, and on the left-hand side of the road, at the edge of the woods is a bog, designated as (No. 2)—“Swamp Loosestrife bog.” It covers an area of five or six acres and is wet and springy, and I was only able to get on it by using two fence boards. One could not remain long in one spot, for soon the water would cover the boards. Drank from a spring under the shadow of Fallen Rocks. There is no water in any of the falls to-day, unless it be Mine Lot.

The following plants were observed or collected: *Didymium xanthopus* (Ditm.) Fr. on sphagnum, mosses and old leaves.

*Biatora sanguineoatra* (Ach.) Tuck., on mosses and rotten stumps.

*Cephalozia pleniceps* (Aust.) Lindb.; *Lophocolea heterophylla* (Schrad.) Dum. and *Plagiochila asplenoides* (L.) Dum., all determined by Miss Lorenz; and *Ptilidium pulcherrimum* (Web.) Hampe.

*Aulacomnium palustre* Schwaegr.; *Calliergon cordifolium* (Hedw.) Kindb.; *Georgia pellucida* (L.) Rabenh. on old logs and stumps; *Hypnum Haldanianum* Grev.; *Hypnum recurvans* (Mx.) Schwaegr. on old logs; *Plagiothecium denticulatum* (L.) B. & S.; *Sphagnum squarrosum* Crome and four undetermined *Sphagnums*.

*Osmunda cinnamomea* L.; and woodwardia, *Anchistea virginica* (L.) Presl., abundant in (No. 1).

*Larix laricina* (DuRoi) Koch; *Scheuchzeria palustris* L.; *Carex diandra* Schrank. (No. 1); *Dulichium arundinaceum* (L.) Britton; *Eriophorum tenellum* Nutt. (No. 2); *Mariscus mariscoides* (Muhl.) Ktze. (*Cladium mariscoides* (Muhl.) Torr.); *Rynchospora alba*

(L.) Vahl; *Peltandra virginica* (L.) Kunth; *Eriocaulon septangulare* With. (No. 2); *Betula lutea* Mx. f.; *Quercus coccinea* Wang. and *Quercus Prinus* L. in dry woods; *Nymphaea advena* Soland. (No. 2); *Drosera intermedia* Hayne, abundant at (No. 2); *Ribes vulgare* Lam., a plant in the woods at (No. 2); *Aronia arbutifolia* (L.) Ell. (No. 2), not as common as *Aronia melanocarpa* (Mx.) Britton; *Trifolium arvense* L., dry fields; *Ilex verticillata* (L.) A. Gray; *Nemophanes mucronata* (L.) Trelease; *Triadenum virginicum* (L.) Raf., and a broader leaved form at (No. 1); *Decodon verticillatus* (L.) Ell., very abundant at (No. 2); lovage, *Hipposeelinum Levisticum* (L.) Britton & Rose, escaped to roadside; *Azalea canescens* Mx.; *Chamaedaphne calyculata* (L.) Moench; *Kalmia angustifolia* L.; *Gaylussacia baccata* (Wang.) K. Koch; *Oxycoccus macrocarpus* (Ait.) Pursh, abundant at (No. 2), one form with leaves 13 x 7 mm., another form with leaves more crowded and 10 x 5 mm.; *Oxycoccus Oxycoccus* (L.) MacM. (No. 1); *Vaccinium atrococcum* (A. Gray) Heller, common specially at (No. 1) and heavily fruited; *Vaccinium corymbosum* L., not as common as the last and fruiting a little later; *Dasystema flava* (L.) Wood, woods about (No. 2); *Melampyrum lineare* Lam.; *Cephalanthus occidentalis* L.; *Viburnum cassinoides* L. at (No. 2) —two forms, the leaves in one  $7\frac{1}{2} \times \frac{3}{4}$ – $1\frac{1}{4}$  cm., the leaves in the other form 5 x 2 cm. more crenulate and acute; *Viburnum dentatum* L.; *Anaphalis margaritacea* (L.) B. & H., fields; *Rudbeckia hirta tubuliforme* Burnham, roadside.

August 29, 1908. Indian Ladder in the afternoon. Up Black Creek above Tory Hook and about two thirds the distance to the foot of Mine Lot Fall. On the stream embankments a fine growth of maidenhair and evergreen shield ferns. The embankments are five to ten feet high and rather regular in outline; can they be actually formed by the high water bringing down soil, rocks and debris? There are a few hemlocks on Tory Hook at the site of a camp. On leaving the rugged rocky bed of the stream, one passes through a low shrubby hemlock growth, until the Bear path under the old man's face is reached. Found the trail much better beaten than I expected, but affording few views. A wealth of pale touch-me-not along the cliff path for

half a mile, crowding out all other vegetation, and a fine sight. Returned through Glen Doon and in the woods further down found a fine specimen of Jack-my-lantern fungus, *Clitocybe illudens* (Schw.) Sacc., at the base of a hickory stump. One clump had over 50 plants; which I succeeded in taking to the city and presenting to the State Museum. The gills gave off a decided phosphorescent glow in the dark of the room, so one could read very coarse print.

The following plants were seen or collected: *Lycogala epidendrum* (Buxb.) Fr. on basswood logs.

*Agaricus placomyces* Pk.; *Amanitopsis vaginata* (Bull.) P. Karst., the var. *livida* (Pers.) Pk.; *Boletus granulatus* L.; *Boletus scaber* Bull.; *Calvatia gigantea* (Batsch); *Clavaria aurea* Schaeff.; *Clavaria pistillaris* L.; *Collybia radicata* (Relh.) Quel.; *Crepidotus malachius* (B. & C.) Sacc.; *Eutypella cerviculata* (Fr.) Sacc. on *Carpinus carolinana*; *Fomes ignarius* (L.) Gill. on *Carpinus* and butternut; *Helvella crispa* (Scop.) Fr.; *Hydnum albonigrum* Pk.; *Hydnum coralloides* Scop.; *Hygrophorus conicus* (Scop.) Fr.; *Hypoxylon multiforme* Fr. on canoe birch; *Laccaria laccata* (Scop.) Berk. & Br.; *Lactarius parvus* Pk. on rotten log; *Lactarius piperatus* (L.) Pers.; *Lactarius trivialis* (Fr.) Fr.; *Lactarius uvidus* (Fr.) Fr.; *Lactarius vellereus* (Fr.) Fr.; *Lactarius volemus* (Fr.) Fr.; *Leotia lubrica* (Scop.) Pers.; *Lepiota aspera* (Pers.) Quel.; *Macropodia fuscicarpa* (Ger.) Durand; *Mycena leaiana* Berk.; *Omphalia Austini* (Pk.) Sacc.; *Panus stipticus* (Bull.) Fr. on yellow birch; *Paxillus involutus* (Batsch) Fr.; *Pluteus tomentosulus* Pk.; *Polyporus cuticularis* (Bull.) Fr. on beech; *Polyporus gilvus* (Schw.) Fr. on birch; *Russula foetida* (Pers.) Fr.; *Sebacina incrustans* (Pers.) Tul.; *Urocystis Anemones* (Pers.) Wint. on leaves of *Hepatica acutiloba*; *Uromyces Caladii* (Schw.) Farl. on leaves and spathes of *Arisaema triphyllum*.

*Conocephalum conicum* (L.) Dum. and *Marchantia polymorpha* L.

*Aulacomnium heterostichum* (Hedw.) B. & S.; *Bartramia pomiformis* (L.) Hedw.; *Hylocomium proliferum* (L.) Lindb. and *Hylocomium triquetrum* (L.) B. & S.

*Oryzopsis racemosa* (J. E. Sm.) Ricker (*O. melanocarpa* Muhl.);



*Allium tricoccum* Ait.; *Unifolium canadense* (Desf.) Greene; *Corallorrhiza maculata* Raf. (*C. multiflora* Nutt.); *Corallorrhiza odontorrhiza* (Willd.) Nutt.; *Adlumia fungosa* (Ait.) Greene; *Bicuculla canadensis* (Goldie) Millsp., abundant below the ruined tower; *Impatiens biflora* Walt., not near as common as *Impatiens pallida* Nutt.; *Epilobium adenocaulon* Haussk.; *Lappula virginiana* (L.) Greene, one small plant of the cliff form; *Collinsonia canadensis* L. and *Helianthus decapetalus* L.

November 3, 1908. Indian Ladder most of the day. Glen Doon and Black creek amphitheatres in an Indian Summer's haze. It was very mild in the bright sunshine. Visited the grave of

CHRISTOPHER VANWALKENBURG

DIED

OCT. 11, 1816

AE 30 Y'RS — MO.

& 21 DAYS.

There were two or three other graves that formerly had marble slabs; and several graves were marked by stones from walls. The little knoll on which these graves lie is about a mile from the railroad station, on the private road.

Crossed the field to the stream from Hailes' Cavern, which has worn its bed through Hudson River shale, around a considerable hill, at right angles to it. For some distance upstream, flowing water, until one came to the confluence of the streams. Scarcely any water in the stream from the cavern, and the other stream must issue from under the rocks, a short distance above, for no water falls over the cliffs at the head of the gulf. Indeed this would only be a waterfall during very high water, but the boulder-strewn way indicates a stream bed. In the valley the embankments of rocks along the stream I suspect have been left during high water. The climb to Hailes' Cavern is very steep and obstructed with large rocks, and from the cavern to the head of the western amphitheater there is no perceptible trail along the base of the cliffs. There are many cavern-like openings and shelves, and in one spot a green carpet of ground hemlock, *Taxus canadensis* Marsh. Some of the rocks are green with

mats of *Anomodon attenuatus* (Schreb.) Hueben, and one sees along the cliffs the old-fashioned motherwort and catnip. From the head of this amphitheater to the Indian Ladder road, there is a very good trail at the base of the cliffs, and the character of the cliffs of the western exposure here, as along the East Cliff, is more fossiliferous. More hemlock, *Tsuga canadensis* (L.) Carr., abound, surrounded by groves of canoe birch. *Pellaea atropurpurea* (L.) Link occurs here, as along the western exposure of East Cliff. There is a peculiar rock column, a dozen feet high, along the trail, in close proximity with the cliff, and with space enough for a person to pass between the column and the cliff. One comes out at Tory House and the genuine wildness of the path is lost.

Along the trail in the west amphitheater a dead robin (perhaps shot), and within a short distance a dead cottontail. Can bunny have met his fate, during the night or when pressed or pursued, leaping from the cliffs? I could find no signs of it having been shot. Partridges, blue jays, chickadees, crows, a red-headed woodpecker, red squirrels, flies and a cricket singing his parting song. Down in the valley a hound baying.

"Hark! hear the sound of the baying hound!  
 Along the round of the mountain;  
 The echo calls, then it falls and falls  
 Like the water of a fountain.  
 Oh, mournfully sad and strange and deep  
 The voice of the hound along the steep."

There was no water in Little Fall and but a small amount in Mine Lot, although ice was beginning to form at the base of the fall, noticeable from the valley. But few leaves left on the trees, dried, browned and bronzed. Near the site of the wooden ladder beyond Mine Lot, the hemlocks form a V into a fine growth of canoe birch. Can the formations and distribution of the birch and hemlock be due to soil conditions?

The following plants were seen or collected: *Daldinia concentrica* (Bolt.) Ces. & DeNot. on old logs; *Fomes applanatus* (Pers.) Wallr. on living maple; *Hymenochaete tabacina* (Sow.) Lev. on hickory and *Ostrya virginiana*; *Julella monosperma* (Pk.) Sacc. on a rotten log in west amphitheater with *Lophocolea hetero-*

*phylla* (Schrad.) Dum.; *Pholiota adiposa* Fr. and *Pholiota autumnalis* Pk. on old logs.

*Cladonia rangiferina* (L.) Weber.

*Brachythecium oxycladon* (Brid.) J. & S.; *Calliargon Schreberi* (Willd.) Grout; *Dicranum scoparium* (L.) Hedw.; and *Plagiothecium turfaceum* Lindb. on logs.

*Asplenium Ruta-muraria* L.; *Asplenium Trichomanes* L., one plant, not a common fern; *Polypodium vulgare* L., although not rare along the brow of western cliffs in scattered stations, yet it cannot be considered as common as would be expected.

The following plants in flower: *Alsine media* L.; *Hamamelis virginiana* L.; *Melilotus officinalis* (L.) Lam.; *Trifolium agrarium* L.; *Robertiella Robertiana* (L.) Hanks; *Aster cordifolius* L.; *Aster ericoides* L. and *Solidago caesia* L. The Herb Robert plentiful along the cliffs and "in varicolored prettiness." Delightfully fragrant when touched and the green at this season of the year variegated with crimson and yellow.

*Juniperus virginiana* L., a completely prostrate shrub; *Carex eburnea* Boott; *Vagnera stellata* (L.) Morong, path near Hailes' Cavern; *Arenaria stricta* Mx., along the Bear path above Indian Ladder road; *Atragene americana* Sims; *Celastrus scandens* L.; *Staphylea trifolia* L.; *Cornus rugosa* Lam., forming thickets and *Lonicera hirsuta* Eaton.

February 22, 1909. We left the city on an early morning train and spent the day at Indian Ladder. We found the climb very slippery up the carriage road and along the base of the cliffs. We were obliged to cling to every tree, shrub and log and there was considerable danger, although we returned with only very wet feet. The snow was so crusted one could make but little impression in it, but it was softer and deeper in the wooded valley. It took us an hour to go from Little to Mine Lot Fall; which ordinarily would take less than ten minutes, and we had to creep and crawl far below the Bear path.

It is not so difficult to reach the Little Fall, where the water falls into an immense ice conduit, reaching to the top of the cliff 80 feet above. It was a beautiful sight and several large stalactite icicles hang pendant from the cliff near by. One can pass in safety along the path behind this cone, as at Mine Lot.

We found enough wood for a good fire at Mine Lot Fall, where we lunched and rested for two hours in the Red Paint Mine. The ice cone here is not so large but is greater in diameter than at Little Fall, and the hundreds of diamonds—"ice buttons"—are very beautiful. The roughness of the ice gives one an opportunity to approach the edge of the cone and look down the ice-encrusted ravine. Further progress along the path was blocked by ice, and we descended through the woods on the ridge between the streams from the two waterfalls.

Mosses, bright and green but frozen, and bittersweet berries. Over the hemlocks, birches and maples of the ravine, to the north of Meadowdale is a "flood lake" of the form of an interrogation point. Red squirrels, blue jays and perhaps spring birds. During the day we visited the Tory House and Giant's Castle. From the valley, Bridal Veil Fall shows an immense ice cone.

The following plants: *Hypoxylon fusco-purpureum* (Schw.) Berk. on rotten logs; and *Polyporus picipes* Fr.

*Lecanora varia* (Ehrh.) Ach. on branches.

*Orthotrichum speciosum* Nees on willow trunks.

May 8, 1909. Helderbergs for the afternoon. I reached the cliffs a mile east of Bridal Veil, via the bog and low woods in the valley, and easily climbed the brow of the escarpment up a partial stream bed some distance from the main wagon road. Between this stream bed and the Bridal Veil Fall, I discovered a "high water" waterfall, which some distance back from the brow of the cliff flows down a picturesque ravine of shale. Fine views from the cliffs in spite of the far away haze. In the vicinity of Fallen Rocks, two red-shouldered hawks circled the air and uttered their shrill kee-you, kee-you. One of the birds was much noisier than the other, and after tiring itself out would alight in the top of a dead tree below the cliff. Very evidently they have a nest in the top of a tree somewhere below the brow of the cliff. Hermit thrushes and many other birds; and delayed vegetation makes up for time lost. Descended late in the afternoon by the short-cut trail and find it lies near the landslide of the spring of 1908, but whether the trail has been changed since the slide took place, I cannot say with certainty.

The following plants seen or collected: *Daedalea confragosa* (Bolt.) Pers., two forms on canoe birch, one with a thickened roughened pileus; *Diplocladium penicilloides* Sacc. on old *Polyporus resinosus*, deposited in the State Herbarium as new to the state; *Fomes pinicola* (Sw.) Cke. on hemlock stump; *Massaria vomitoria* B. & C. on limbs of *Acer rubrum*, part in the State Herbarium; *Polyporus betulinus* (Bull.) Fr., a plant bearing three separate fruiting pilei at angles to each other, due to the falling of a canoe birch trunk; *Sarcoscypha coccinea* (Scop.) Sacc. on old sticks.

*Cladonia furcata* (Huds.) Schrad.; *Cladonia furcata racemosa* (Hoffm.) Flk.; *Cladonia pyxidata neglecta* (Flk.) Mass.; *Lobaria pulmonaria* (L.) Hoffm. (*Sticta pulmonaria* (L.) Ach.); *Parmelia perlata* (L.) Ach. on fallen hemlock; *Pertusaria leioplaca* (Ach.) Schaer., on trunk of *Ostrya*, determined by Dr. L. W. Riddle, deposited in the State Herbarium as new to the state; and *Physcia adglutinata* (Flk.) Nyl. on the trunk of *Ostrya*.

*Bazzania trilobata* (L.) S. F. Gray; *Lophozia barbata* (Schreb.) Dum.; *Ptilidium ciliare* (L.) Nees on the ground and *Ptilidium pulcherrimum* (Web.) Hampe on coniferous logs.

*Plagiothecium denticulatum* (L.) B. & S., base of a tree.

*Polypodium vulgare* L., fruiting specimens on logs.

*Dentaria diphylla* L.; *Chrysosplenium americanum* Schwein.; *Viola pallens* (Banks) Brainerd; *Epigaea repens* L., a little left in the woods about the swamp in the valley. Skunk cabbage in swamps; tamaracs, poplars and willows becoming green; and shad bushes whitening the uplands.

May 16, 1909. We left the city on the morning train, last night's heavy shower filling the waterfalls and beating down the clay road like a floor. During the first shower, we were under the cliff at Little Fall, listening to the thundering of the falling water; during the second shower, we were in a large empty barn a short distance back of Mine Lot Fall, where we were entertained by a chorus of hens. On returning to Table Rock we found a dense fog had rolled in and filled the vast amphitheater, and this did not disperse until a slight breeze sprang up a little after noon, when we had reached the summer house on East

Cliff. It was a glorious sight to see how quickly the fog lifted and was melted away. The greens of the spring foliage in the valleys and on the mountain side were of many shades and hues. A scarlet tanager posed on a shrub, and we approached quite near before it flew a little further on.

Collected and observed the following plants: *Vaucheria sessilis* (Vauch.) DC., together with a *Spirogyra* sp. (filaments 40 x 42-60  $\mu$ , one spiral) in felt-like mats at the mouth of cold spring near Little Fall.

*Aleurodiscus Oakesii* (B. & C.) Cke. and *Exidia glandulosa* (Bull.) Fr. on bark of *Ostrya*; and *Septoria viriditingens* Curt. on leaves of *Allium tricoccum*.

*Biatora coarctata* (J. E. Sm.) Tuck. on limestone, determined by Dr. Riddle; *Biatora hypnophila* (Ach.) Tuck. on mossy rocks; *Collema rysssoleum* Tuck. on rocks; ***Lecanora* (§ *Callopisma*) *cerina siderites*** (Tuck.) n. comb. (*Placodium cerinum siderites* Tuck.) on limestone, determined by Dr. Riddle, part in State Herbarium as new to the state; *Lecanora subfusca* (L., Nyl.) Ach. on trunks of *Hicoria ovata*; *Lobaria amplissima* (Scop.) Arn. (*Sticta amplissima* (Scop.) Mass.) on trunks of trees; *Parmelia olivacea* (L.) Ach. on bark of *Hicoria*; *Parmelia rudecta* Ach. on *Juniperus sibirica*; and *Platysma Oakesianum* (Tuck.) Nyl. (*Cetraria Oakesiana* Tuck.) on trunks of hemlock and birch.

*Oryzopsis asperifolia* Mx. and *Arabis laevigata* (Muhl.) Poir.

July 17, 1909. Indian Ladder bogs in the afternoon. About the deserted house east of the pine grove. *Hemerocallis fulva* L.; *Saponaria officinalis* L.; *Robinia Pseudacacia* L.; cypress spurge, *Tithymalus cyparissias* (L.) Hill; *Carum carui* L.; *Solanum Dulcamara* L. and *Symphoricarpos racemosus* Mx.

By the roadsides. *Panicularia grandis* (S. Wats.) Nash and *Salix cordata* Muhl. in a wet place. *Atriplex hastata* L. at Meadowdale station. *Vicia tetrasperma* (L.) Moench; *Ceanothus americanus* L.; *Apocynum album* Greene; *Phryma Leptostachya* L.; *Galium lanceolatum* Torr. in pine woods; and *Campanula rapunculoides* L.

The following from Woodwardia bog, which was dry enough to easily get on. *Sphaerella Sarraceniae* (Schw.) Sacc. on leaves of *Sarracenia purpurea*.

*Sphagnum magellanicum* Brid. (*S. medium* Limpr.), determined by Dr. A. LeRoy Andrews.

*Picea mariana* (Mill.) BSP.; *Carex tribuloides* Wahl.; *Carex trisperma* Dewey; *Eriophorum gracile* Koch; and *Andromeda Polifolia* L., a few plants.

The poison sumac is too abundant in the swamp on the east side of the road to explore extensively, but the following plants were found: *Cercospora Symplocarpi* Pk. on leaves of *Spathyema*.

*Amblystegium filicinum* (L.) DeNot.; and *Hypnum imponens* Hedw. on logs.

*Dryopteris Clintoniana* (D. C. Eaton) Dowell.

*Agrostis Schweinitzii* Trin.; *Bromus ciliatus* L.; *Hystrix Hystrix* (L.) Millsp.; *Carex disperma* Dewey (*C. tenella* Schkr.); *Carex granularis* Muhl.; *Carex scabrata* Schwein.; *Uvularia grandiflora* J. E. Sm.; *Uvularia sessilifolia* L.; *Sassafras Sassafras* (L.) Karst.; *Hamamelis virginiana* L.; *Acer pennsylvanicum* L.; *Sanicula gregaria* Bicknell; *Steironema ciliatum* (L.) Raf.; *Asclepias exaltata* (L.) Muhl. and *Aster nobilis* Burgess.

October 23, 1909. Afternoon at the Helderbergs. Autumn colors, the leaves only partly fallen. Climbed the eastern stream bed in the west amphitheater and then followed the Bear path around the base of the cliffs to the Tory House. The upper portion of the stream bed filled with huge boulders, carpeted with mosses and ferns. Along the dry bed of the stream found *Asplenium pycnocarpon* Spreng. (*A. angustifolium* Mx.) and *Dryopteris Goldieana* (Hook.) A. Gray. Gray squirrels, chickadees, blue jays and other birds. A fairly good-sized paper hornet's nest, and on the train was asked by several if I was sure the hornets were out? The fruit of witch hazel, for several days after bringing indoors, would shoot dark shiny seeds for seven or eight feet.

The following plants seen or collected: *Daedalea quercina* (L.) Fr. on oak stumps; *Fomes pinicola* (Sw.) Cke. on birch (!); *Lactarius cicilioides* (Fr.) Fr.; *Merulius tremellosus* Schrad. on logs; *Myxosporium nitidum* B. & C. on old branches of *Cornus rugosa*; *Pleurotus sulfureoides* (Pk.) Sacc. on old hemlock logs; *Polyporus fumosus* (Pers.) Fr. on elm logs; and *Trogia crispa* (Pers.) Fr. on birch.

*Catherinea angustata* Brid. and *Hypnum molluscum* Hedw.

*Benzoin aestivale* (L.) Nees; *Hedeoma pulegioides* (L.) Pers.; *Carduus crispus* L., *Centaurea nigra* L. and *Crepis* sp. were found in a newly seeded field near the foot of Indian Ladder hill. A portion of the collection of the *Carduus* was deposited in the State Herbarium as new to the state.

April 17, 1910. We left on the morning train for a day in the Helderbergs. We crossed the fields from Meadowvale to the west amphitheater and ascended the rugged rocky ravine to the mouth of Hailes' Cavern. No snow in Helmus Crack or at the base of the waterfalls, although a little in the ravine in spots, about which spring flowers were blooming. There were some banks of snow in the open fields at the top of the cliffs.

There is a beautiful view over the forested enclosed valley of the west amphitheater from the cliffs. Canoe birch trees are very conspicuous to-day. Last season's fronds of evergreen ferns closely pressed to the ground; indeed the heavy weight of the snow has pressed flat the grass and weeds. The body of a muskrat, at the base of the cliff, near Little Fall. A good day for lichens and mosses, because of the misty rain. Descended the short-cut trail to the railroad station, and late in the afternoon went down the railroad track towards Altamont, about a mile, to a piece of woods.

Collected and observed the following plants: *Diatrype stigma* (Hoffm.) Fr. on old sticks.

*Arthonia radiata* (Pers.) Th. Fr. on trunks of *Ostrya*, determined by Dr. Fink; *Leptogium lacerum* (Retz.) S. F. Gray on *Encalypta streptocarpa*; *Parmelia crinita pilosella* (Hue) Merrill on oak trunks; *Pertusaria velata* (Turn.) Nyl. on oak trees; *Physcia stellaris* (L.) Nyl. on hickory and *Ostrya* bark; *Secoligna cupularis* (Ehrh.) Norm. (*Gyalecta cupularis* (Ehrh.) Schaer.) on limestone; *Verrucaria papularis* Fr. on limestone, determined by Mr. G. K. Merrill, part deposited in the State Herbarium as new to the state; *Verrucaria rupestris* Schrad. on limestone, determined by Dr. Fink.

*Hypnum cupressiforme* L. on dry rocks near the base of Mine Lot Fall, determined by Dr. A. J. Grout.

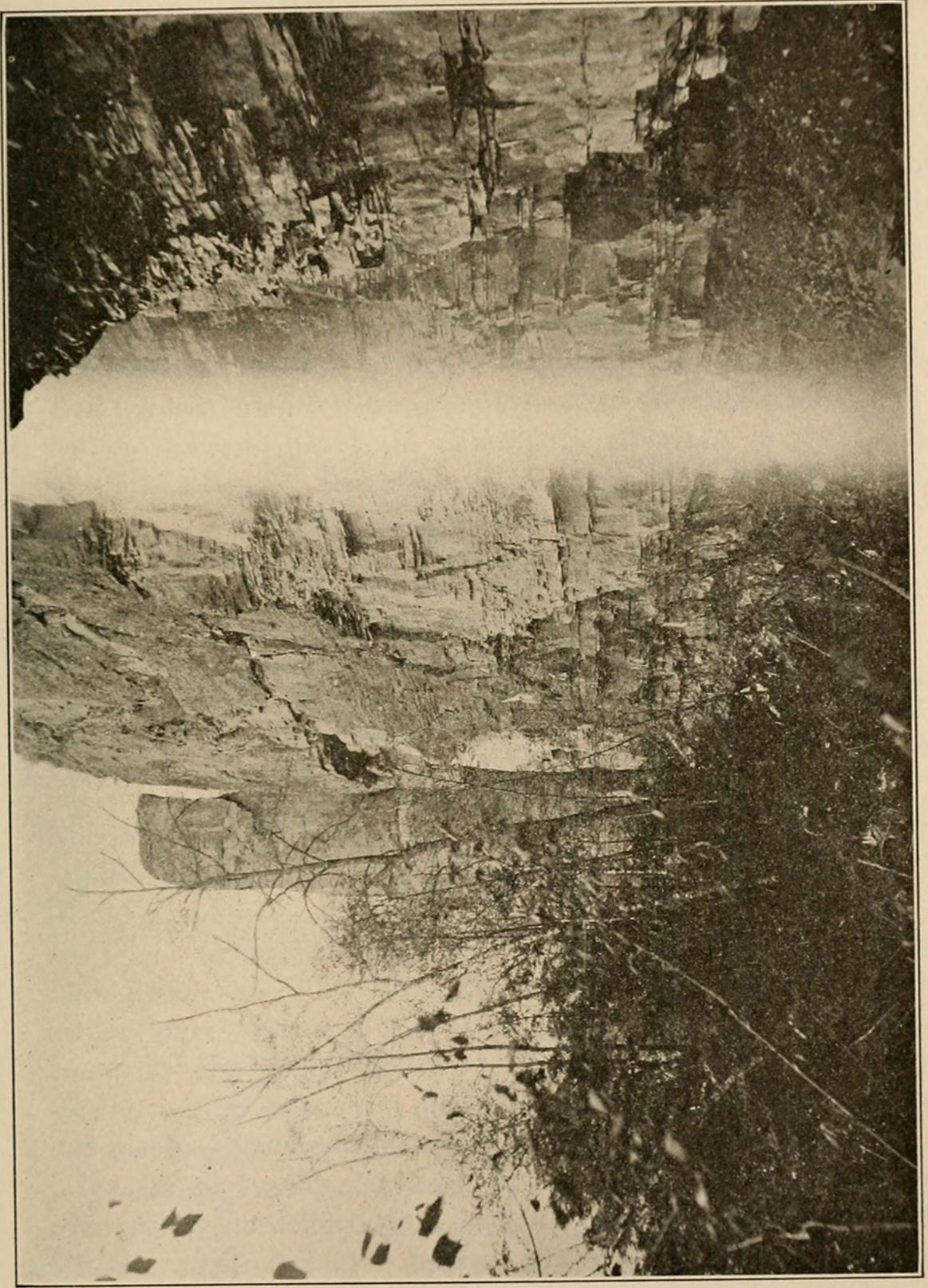


FIG. 9. The Bridal Veil of the Helderbergs and the Monolith.

*Pinus rigida* Mill., on East Cliff; *Aplectrum hyemale* (Muhl.) Torr. in leaf, woods between Mine Lot and East Cliff, a few plants; *Caulophyllum thalictroides* (L.) Mx.; *Bicuculla canadensis* (Goldie) Millsp. more abundant than *Bicuculla Cucullaria* (L.) Millsp., the leaves of the squirrel corn are darker, deeper green and more whitened beneath; *Dentaria maxima* Nutt., abundant in the west amphitheater; *Glecoma hederacea* L., high up the ravine on rocks, the stream from Hailes' Cavern, appearing as if native.

The following plants from the woods down the railroad tracks. *Hypoxylon cohaerens* (Pers.) Fr. on beech; *Polyporus Schweinitzii* Fr. on old coniferous stumps; *Puccinia Claytoniata* (Schw.) Syd. on leaves of *Claytonia caroliniana* Mx.; *Sarcoscypha coccinea* (Scop.) Sacc. on buried sticks; and *Septoria Waldsteiniae* Pk. & Clint. on leaves of *Waldsteinia*.

*Hylocomium triquetrum* (L.) B. & S. in a low place; and *Hypnum molluscum* Hedw.

*Veratrum viride* Ait; *Cardamine bulbosa* (Schreb.) BSP. in wet places; *Rubus triflorus* Richards.; *Floerkea proserpinacoides* Willd., not very rare; *Viola conspersa* Reichenb.; *Viola eriocarpa* Schwein. and *Panax trifolium* L.

April 29, 1911. The afternoon at Meadowdale, down the railroad track towards Altamont to several pieces of woods. The country and woods very dry, but vegetation growing rapidly.

Frightened up a partridge, and saw flocks of redwing black-birds. Several large ant hills in the low woods, north side of the track. Visited an old abandoned house, with but few windows and but one door, at the rear, by a stream in the pasture, under the shadow of the Helderbergs. A woodchuck the only occupant now. Formerly a dam was near the house and the partial remains of a sawmill still stands. In the first woods down the track from the station, fallen black ash, *Fraxinus nigra* L., logs with large burls encompassing the trunks, on which were patches of sharp black points, perhaps of fungus origin. At the wood margin stands an oak, 50 to 60 feet high, and at the base of the trunk is a large cancer-like growth (with bark) three to four feet high and three to four feet or more in diameter—a very curious growth indeed.

The following plants: *Omphalia campanella* (Batsch) Quel. on old pine logs; and *Fomes conchatus* (Pers.) Gill. on black ash logs.

*Bryum intermedium* Brid., at base of trees; *Thuidium delicatulum* (L.) Mitt. and *Webera sessilis* (Schmid.) Lindb.

*Polystichum acrostichoides* (L.) Schott., still prostrate on the ground; and *Equisetum arvense* L.

*Erythronium americanum* Ker.; *Caltha palustris* L.; *Hepatica Hepatica* (L.) Karst.; *Podophyllum peltatum* L.; *Sanguinaria canadensis* L.; *Bicuculla Cucullaria* (L.) Millsp.; *Dentaria diphylla* L.; *Acer rubrum* L.; *Sambucus pubens* Mx. and *Tussilago Farfara* L.

"And so, all hail, fair Helderberg, all hail!  
Thou livest in the heart of all thy sons,  
Unchanged by time, by tide, by tempest rude,  
Embosomed deep in fondest memory  
And held in everlasting joy and love."

During the winter of 1913-1914, Mrs. Emma Treadwell Thacher, of Albany, gave to the state of New York, about 350 acres of land back from the edge of the Indian Ladder Cliffs in the Helderbergs. Three miles of cliff front is included in this munificent gift; which bears the name of her distinguished husband, "John Boyd Thacher Park." The gift was accepted by the state as a public park, March 4, 1914; dedicated September 14, 1914, and was placed in the custody of the American Scenic and Historic Preservation Society, with Prof. John H. Cook as superintendent of the park.

HUDSON FALLS, N. Y.

## BOTANICAL ABSTRACTS

A meeting of editors of botanical publications was held at Pittsburgh, on December 28, 1917, to consider the desirability of undertaking the publication of an abstracting journal of botany. After a long discussion the following resolution was adopted:

"Resolved, that we, as a group of botanists interested, invite each botanical society to appoint a committee of two to meet with committees of other societies and with the members of this

group, to formulate a program for a journal of botanical abstracts, botany to be interpreted in its broadest sense. In case action of any society is delayed, the president and secretary of such society are invited to represent it. A meeting is called for 10 A.M., December 30, at Parlor 140, Fort Pitt Hotel."

At this augmented meeting of December 30, after informal discussion it was voted that the 26 botanists present proceed to formal organization under the name "Temporary Board of Control of Botanical Abstracts." Donald Reddick was elected chairman and Forrest Shreve secretary. On motion it was voted that the board provide for its perpetuation in the following way:

1. That the following botanical organizations be asked to elect two members each:

American Association for the Advancement of Science, Section G.

American Genetic Association

American Microscopical Society

American Phytopathological Society

American Society of Agronomists

American Society of Naturalists

American Conference of Pharmaceutical Faculties

Botanical Society of America	{	General Section
		Physiological Section
		Taxonomic Section

Ecological Society of America

Paleontological Society of America

Society for Horticultural Science

Society of American Bacteriologists

Society of American Foresters.

2. That in the election of members to the Board of Control of Botanical Abstracts each society be asked to name one man for a short term of two years and one man for a long term of four years, and that a member be elected biennially thereafter or as required.

On motion the Temporary Board of Control elected by ballot an executive committee of ten on organization, to act for one year with power to make arrangements for editorial management and publication. This committee is constituted as follows:

J. H. Barnhart  
 Henry C. Cowles  
 B. M. Duggar  
 C. Stuart Gager  
 R. A. Harper  
 Barton E. Livingston  
 F. C. Newcombe  
 Donald Reddick, *Chairman*  
 C. L. Shear  
 Forrest Shreve

The executive committee of the Temporary Board of Control selected B. E. Livingston for editor-in-chief and the following as associate editors in charge of the sections as indicated:

Agronomy and Soil Technology, \_\_\_\_\_\*  
 Bacteriology, H. J. Conn  
 Botanical Education, C. Stuart Gager  
 Cytology, C. J. Chamberlain  
 Ecology and Plant Geography, Henry C. Cowles  
 Forestry, Raphael Zon  
 Genetics, G. H. Shull  
 History, Biography and Bibliography, J. H. Barnhart  
 Horticulture, W. H. Chandler  
 Morphology, E. W. Sinnott  
 Paleobotany, E. W. Berry  
 Pathology, Donald Reddick  
 Pharmacognosy, Henry Kraemer  
 Physiology, B. M. Duggar  
 Taxonomy, J. M. Greenman and J. G. Schramm

It is expected that the work of abstracting will begin at once with the international literature of the year 1918 and that publication will follow promptly.

On May 20 the following letter was issued by the committee having the work in charge:

"The long-cherished dream of American botanists is at the point of actual realization, and we shall soon have an abstract journal published in this country if you will promptly place

\* Name to be supplied.

yourself on record with the publishers, as one who will support the new enterprise.

"We are sure that you will extend a cordial welcome to *Botanical Abstracts*, the first issue of which is expected to appear in June, 1918, and we hope you will appreciate that the starting of the new journal is dependent upon the very prompt support of as large a number of Americans and American institutions as can possibly be enlisted. We know you will subscribe, but it is more than important that you act very promptly in this matter. For many reasons it is highly desirable that the new series start as soon as possible and we need your support before actual publication can begin. May we not depend on you to have your subscription in the hands of the publishers within a week?

"Everyone interested in any phase of plant life will have many needs for *Botanical Abstracts*, which is planned to cover the world literature of the subject in a very thorough way. We are sure that the new journal will be easily worth the subscription price to you. Furthermore, it will be a great day for American science when *Botanical Abstracts* comes into being. For your own benefit, for the advancement of science in general, and for the increased prestige of American work, we hope you will not delay in the sending of your subscription to the publishers.

"We also hope you will do all in your power in other ways, to make it possible to launch this worthy project immediately. It is unnecessary to point out that libraries are now unable to obtain the German botanical abstract journal, that their allotments for this purpose cannot be spent for this, and that the American series, with your support, will be more prompt and more efficient than the German one, which never has been very satisfactory. Institutional subscriptions are usually slow in coming in, and we ask you to do your best to have the subscription of your institution, as well as your own personal one, sent in at a very early date. Please also do all you can to further this undertaking by arousing interest and enthusiasm and obtaining subscriptions in other institutions and among your colleagues. Every subscription, and every promised subscription counts toward the actual inauguration of the greatest undertaking yet proposed by American botanical workers.

"Payment may be made at any time within three months from the date of publication of the first issue, but your subscription (and as many more as you can get) is needed immediately. It should be forwarded directly to the publishers (*The Williams & Wilkins Co.*, 2419 Greenmount Ave., Baltimore, Md.) on one of the blanks enclosed herewith.

"Trusting that we may have your approval and support and the prompt receipt of your subscription, we are,

"Very truly yours,

"EXECUTIVE COMMITTEE OF THE TEMPORARY BOARD  
OF CONTROL OF BOTANICAL ABSTRACTS

J. H. BARNHART, New York Botanical Garden,

H. C. COWLES, University of Chicago,

B. M. DUGGAR, Missouri Botanical Garden,

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B. E. LIVINGSTON, The Johns Hopkins University,

F. C. NEWCOMBE, University of Michigan,

DONALD REDDICK, *Chairman*, Cornell University,

C. L. SHEAR, U. S. Department of Agriculture,

FORREST SHREVE, Desert Botanical Laboratory"

The announcement mentioned as being enclosed with the letter repeats matter already reprinted, and in addition urges every one to subscribe. The publication is to be a monthly and the subscription price is six dollars a year. Subscriptions should not be sent to any of the men listed above but directly to the publishers, Waverly Press, 2419 Greenmount Avenue, Baltimore, Md.

## REVIEWS

### **Britton's Flora of Bermuda\***

In the bibliography which is an appendix to this newest volume by Dr. Britton, the statement is made that O. A. Reade's "Plants of the Bermudas," 1885, is the only descriptive flora of the island heretofore published. That book lists about 150 plants native and naturalized, while the present flora contains 165 flowering plants, ferns and their allies, the rest of the total number of 709 species now credited to the island being found among so-called cryptogamous groups. Of the 61 truly Bermudian (endemic) species, 4 are monocotyledons, six are dicotyledons, one is a Juniper, and 4 are ferns. All the rest are among the Mosses, Hepatics, Lichens and Fungi.

There are keys and descriptions of all the plants known from

\* Britton, N. L. *Flora of Bermuda*. Pp. 1-585. Illustrated. Chas. Scribner & Co., N. Y. 28 February 1918. Price \$4.50.



Burnham, Stewart H. 1918. "THE FLORA OF INDIAN LADDER AND VICINITY; TOGETHER WITH DESCRIPTIVE NOTES ON THE SCENERY (Continued)." *Torreyia* 18(7), 127–153.

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