WILDLIFE OF THE HUNTINGTON WILDLIFE STATION

(Parts III to VI Inc.)

By

W. A. Dence, H. F. Heady, J. L. Lowe and A. H. Smith

Roosevelt Wildlife Bulletin

VOLUME 7 NUMBER 3

Published by the Roosevelt Wildlife Forest Experiment Station at the New York State College of Forestry, Syracuse, N. Y.

SAMUEL N. SPRING, Dean
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2. The Story of King's Pond. F. A. Lucas
3. Its Fish Cultural Significance. W. C. Kendall

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ERRATA

Page 257, last line: for "Graminifolius" read "graminifolius".

Pages 293 and 294, under "Nymphaeaceae": the order of the genera should be "Erasenia, Nuphar, Nymphaea".

Page 323, line 14 from bottom: for "Vaccinium pensylvanicum Lam." read "Vaccinium pensylvanicum Mill."

Page 348, left column, line 4 from bottom: for "memoralis" read "nemoralis".

Page 350, left column, line 10 from bottom: for "subluliciacea" read "subluliciacea".

Page 355, right column, line 6: add ", 369"after "Eel".

Page 357, right column, line 5 from bottom: add a comma after "Lungwort".

Page 360, left column, line 8: entire line to be transposed to follow "Paeony" as line 6.
Right column, line 4 from bottom: "Plantaginales" to be flush with line above.

Page 361, right column, line 5 from bottom: for "Evrrolla" read "Evrrolla".

Page 362, left column, last line: for "villorsa" read "villosea".

Page 366, right column, line 14 under "V": put "spiralis" in italics.
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Entered as second-class matter October 18, 1927, at the Post Office at Syracuse, N. Y., under the Act of August 24, 1912
ANNOUNCEMENT

The serial publications of the Roosevelt Wildlife Forest Experiment Station consist of the following:

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Temporary Appointments

The regular staff is frequently supplemented by temporary help, usually naturalists from specialized fields of biology. Likewise two or more graduate students majoring in the field of wildlife management are required to assist in the field projects that are in progress at the Huntington Wildlife Station in the Adirondacks.
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Fig. 59. General view of the Huntington Forest from fire look-out tower on Goodnow Mountain. Rich Lake in foreground. Photo by Alec Proskin.
PART III. PROGRESS REPORT ON A STUDY OF THE DWARF SUCKER (Catostomus commersonnii utawana)

By

W. A. DENCE, Assistant Director

Roosevelt Wildlife Forest Experiment Station
Syracuse, New York

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INTRODUCTION

The dwarf form of the common sucker was discovered and described as a new species (Catostomus utacana) by Mather ('90). However, no one seriously recognized his designation, at least in writing, until Kendall and Dence ('29) reported on their finding quantities of small but adult suckers in certain tributary streams of Cranberry Lake. These authors were immediately impressed with the similarity of the small suckers to those described by Mather and deemed it advisable to adopt his terminology. More recently other scientists (Greeley and Greene '31; Greeley and Bishop '32; Dence '37) working in the Adirondacks region also have collected this form but have designated it as a sub-species of the common sucker, because certain specimens show intergradations between normal common suckers and the typical dwarf form.

The dwarf sucker is so variable, even in the same watershed, that perhaps it really should be considered only a sub-species of commersonnii, at least until much additional data are available.

The writer is especially grateful to Mr. O. W. Oja, Forest Supervisor of the Huntington Forest, who very graciously and ably assisted him both seasons when regular help was unavailable.

LOCALITY

The fish upon which this report is based are from Wolf Lake, which is wholly within the boundaries of the Huntington Wildlife Forest Experiment Station tract at Newcomb, N. Y. The dwarf suckers of Catlin Lake about three miles to the north and on the same watershed, are consistently larger. Again those from Rich Lake about three miles to the south of Wolf Lake are even larger than those of Catlin Lake. There is a corresponding difference in spawning date—the larger forms spawning earlier than the Wolf Lake form.

Since no hunting, fishing or trespassing of any sort is permitted on the Huntington Wildlife Forest Experiment Station property and since certain waters within the tract support an abundant dwarf sucker population the author availed himself of the unusual opportunity to conduct studies on this sucker with the full assurance that the results would not be affected in any manner through human interference.

Wolf Lake was chosen for the first part of the study because it supported an abundant dwarf sucker population that utilized a
Fig. 60. Collecting pool for dwarf suckers in North Inlet of Wolf Pond. Several hundred suckers congregate in this pool throughout the spawning season.

Fig. 61. Spawning area of dwarf suckers in North Inlet of Wolf Pond. The fish were unable to get beyond the barrier of logs, sticks, etc., shown in the background.
tributary on the north end and another on the south end for spawning purposes. Both of these streams are small and sufficiently free from obstructions and débris to permit easy netting. As a matter of fact the fish were captured with ease through the use of a small common sense minnow seine (Fig. 60). During the peak of the run a hundred or more could be taken with a single sweep of the seine. No other lake on the tract offered such a unique set-up for a study like this.

PURPOSE AND METHOD

The study was inaugurated for the express purpose of obtaining data on sex ratios, ages, spawning habits and migration, but incidentally for any other phase of the life history and habits that might be forthcoming. Data of this sort are very essential in establishing the ecology and the economic relations of the fish with reference to the general biota of the waters on this tract as well as for the waters of the entire Adirondacks region.

The fish were marked by using a combination of fin removals which differentiated the fish from each stream and for each season. A total of 3937 fish were marked in this manner during the two seasons—1936 in the 1938 season and 1977 in the 1939 season. During the second season 647 of those marked the previous year were recovered and given a new designation, making a total of 2624 fish for that year.

Wolf Lake has several small tributaries but only two of them are permanent throughout the year. For convenience these are hereafter referred to as “North Inlet” and “South Inlet”, respectively, since they are on the opposite ends of the lake which extends in a north-south direction. The outlet leaves the lake only a few rods west of the point where the North Inlet enters but the dwarf suckers have never been observed there. Thus, in so far as Wolf Lake is concerned, dwarf suckers enter only the inlets on their spawning migrations. By way of comparison it may be mentioned that the common shiner (Notropis cornutus cornutus) of Wolf Lake, which spawns at about the same time as the suckers, enters only the outlet.

BREEDING

Dwarf suckers began running into the tributary streams of Wolf Lake on the identical date (May 25) during the two seasons of this study. In each instance the fish appeared in considerable numbers from the very beginning so that actual work was started on May 26. The suckers were spawning in the North Inlet on June 5, 1934 but
had nearly vacated the stream by the 7th, indicating that the spawning season in that year compared favorably with that of the past two years. The temperature of the water in the streams apparently has little or no effect in determining the date on which suckers enter the spawning areas because they appear at about the same time each year regardless of the temperature. During the past season the water in each stream was only $48^\circ$ F when the suckers appeared. The previous year the North Inlet was $54^\circ$ F, and the South Inlet was $51^\circ$ F. While the streams were not visited in 1934 until near the end of the spawning season they must have been considerably warmer than was the case on the other occasions because North Inlet was $67^\circ$ F on June 5 and South Inlet was $59^\circ$ F.

The temperature of the lake habitat should, and undoubtedly does, determine the spawning migration date. However, when the fish once enter the streams the date on which spawning takes place is determined largely by the temperature of the water. This was demonstrated very well in the 1938 season when spawning was delayed several days in the colder South Inlet and continued beyond the period utilized in the North Inlet. The situation was quite the reverse the past year by virtue of the fact that the forest cover was removed from the spawning area on the South Inlet, as a clean-up project in the CCC work plan.

Both streams average about six feet in width and except for a few pools do not exceed two feet in depth. The spawning areas proper have about six inches of water over sand or fine gravel bottom and with moderately quick velocity. The suckers were always found within an eighth of a mile of the lake. A jam of rocks, sticks, logs and leaves formed a natural barrier in the North Inlet, preventing further upstream migration while shallow water with apparent unfavorable spawning beds in the South Inlet caused the fish to remain well downstream. When not actually engaged in spawning and when frightened the fish repaired to the deeper pools. Several hundred frequently occurred in a single pool. Migration to and from the streams generally took place at night.

The data thus far indicate that the males precede the females to the spawning areas. This was particularly noticeable the first and second days of the 1938 season when only 54 females from the total catch of 559 were recorded during that period. There were only 146 females among the 627 suckers captured during the corresponding dates in 1939. That females were more numerous on the third day and thereafter was evidenced by the increased activity in mating procedure. Of course in making comparisons due consideration was
given the fact that the male-population greatly outnumbered the female population. However, the males always so greatly outnumbered the females that a spawning trio was generally accompanied by a number of excess males. The summary for the two seasons (Table No. 12) shows that there were about three males for every female.

Table 12. Summary of Dwarf Suckers Marked During the Spawning Seasons of 1938 and 1939

<table>
<thead>
<tr>
<th>SEASON</th>
<th>Total Fish Both Sexes</th>
<th>No. Males</th>
<th>No. Females</th>
<th>Percent Males</th>
<th>Percent Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>1938..........</td>
<td>1996</td>
<td>1634</td>
<td>362</td>
<td>81.9</td>
<td>18.1</td>
</tr>
<tr>
<td>1939..........</td>
<td>1977</td>
<td>1214</td>
<td>763</td>
<td>60.4</td>
<td>39.6</td>
</tr>
<tr>
<td>Both seasons</td>
<td>3973</td>
<td>2848</td>
<td>1125</td>
<td>71.1</td>
<td>28.9</td>
</tr>
</tbody>
</table>

Spawning occurred throughout the twenty-four hours of the day but there was reason to believe that greater activity in this respect took place at night, when migration was more pronounced. Marked fish were always liberated well downstream beyond the section occupied by spawning fish. They remained where they were liberated throughout the day but made their way upstream to the spawning beds during the night. On dull days, migration movements within the stream were observed in the late afternoon.

The spawning fish always faced upstream, frequently in water that was just deep enough to cover their backs (Fig. 61). During the spawning act the dorsal and caudal fins and sometimes part of the back frequently appeared above the water surface. The movements of the fish under such circumstances were so vigorous that the water was greatly agitated making it possible to easily distinguish the spawning groups even at considerable distances. The spawning act, in general, was very similar, if not identical, to that of the common sucker. This is so well known that further description appears unnecessary in this paper.

After the spawning season, which lasts for about ten days, the breeding suckers return to the deep water of Wolf Lake where they remain until the next breeding season. The fish apparently go directly to their objective. In making these migration trips they
were never observed in the act of entering the streams, but when returning they quickly departed for deep water after reaching the mouth of the inlet.

These suckers apparently spawn for the first time when they have reached a length of about 3½ inches. A number of suckers, including both males and females, taken during both seasons, were obviously on their first trip to the spawning areas. These were lighter in color and less robust than older individuals. In fact they were more like the young of the normal common suckers.

**SEXUAL DIMORPHISM**

The sexes of dwarf suckers, as with most fishes, can be distinguished during the breeding season by the greatly distended body of the female. However, this is not always definite evidence especially when spent or partially spent females are encountered. During this study it was generally possible to differentiate the sexes with certainty from deposits of the sex elements during the marking and measuring processes. However, in doubtful cases the necessary evidence was obtained by stroking the belly in the manner used in “stripping”.

Both sexes were provided with tubercles at spawning time, but, in general, the males were better equipped with these structures than were the females. Males had tubercles on the scales at the posterior end of the body particularly in the region of the vent and the anal fin. The anal fin and the lower lobe of the caudal fin supported numerous stout and efficient tubercles. The upper lobe of the caudal had a good many tubercles but these were rather small and granular in appearance compared with those located ventrally.

The females had tubercles in essentially the same portions of the body with the exception of the upper lobe of the caudal fin which was unarmed. The tubercles on the anal fin were few in number, small and comparatively weak. The scales in the region of the vent and the anal fin were greatly thickened and had the margin lined with minute tubercles. The females showed greater modification than the males with respect to the scales.

Breeding male dwarf suckers were generally very much darker than the females, but the sexes could not be differentiated by color alone because there was considerable variation, particularly in the smaller as well as the larger individuals. The dorsal side of a typical male was olive-colored with darker mottlings. A lighter stripe occurred immediately below the dorsal area and that in turn was
followed by a broad black stripe in the region of the lateral line which extended across the head to the snout. This dark stripe ended rather abruptly dorso-ventrally, leaving the ventral side quite colorless.

The females were plain olive-green on the dorsal and lateral regions although the smaller individuals were slightly mottled. There were none of the abrupt color changes as was the case in the males. The belly and the lower fins were colorless.

Many of the females were considerably larger than the general run of male suckers but an occasional large male would sometimes appear in the association so that it was not always possible to differentiate the sexes from size alone. The entire catch of females for each year averaged about six inches in standard length. Further data on comparative lengths are shown in Table 13.

Table 13. Comparative Lengths of Male and Female Dwarf Suckers (in inches)

<table>
<thead>
<tr>
<th>SEASON</th>
<th>TOTAL NO. OF FISH</th>
<th>AVERAGE LENGTH</th>
<th>LARGEST FISH</th>
<th>SMALLEST FISH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td>1938 ...</td>
<td>1,634</td>
<td>362</td>
<td>5.218</td>
<td>5.958</td>
</tr>
<tr>
<td>1939 ...</td>
<td>1,799</td>
<td>825</td>
<td>5.237</td>
<td>6.015</td>
</tr>
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</table>

EXPERIMENTS WITH MARKED FISH

All of the fish included in this study were released after clipping one of the lower fins in accordance with a definite system. Different fins were removed each season for each stream so that in case of recovery during succeeding years it would be possible to obtain certain data relative to the life-history of the sucker, particularly as regards migration and longevity of life.

The method was quite satisfactory except that, of course, it didn't provide for data on the individual fish. It was found that the fins must be removed very close to the body, otherwise regeneration occurs. Regenerated fins were seldom, if ever, as perfect as the original although careful scrutiny was necessary to avoid overlooking some of the previously marked fish.
As stated earlier in the report a total of 1996 dwarf suckers were marked in the 1938 season. Six hundred forty-seven or 32.4 percent of these were recovered and remarked during the 1939 season. Most of the suckers thus recovered had returned to the same stream from whence they had been captured the previous spawning season. Only eighteen or about three percent had shifted from one end of the lake to the other. The greatest shift was from the South Inlet to the North Inlet. This was more or less to be expected because the North Inlet is the larger of the two streams and is thus capable of accommodating more spawning fish.

Actually 1403 fish were marked from the North Inlet in 1938 and 526 of these were recovered the following year. Only 593 were marked in South Inlet and 103 were recovered the next year. The greatest number of recovered fish for a single day occurred on the first day (May 26) when 184 of the captured fish were returns.

The average lengths of the 585 males and of the 62 females in the recoveries were about three-tenths of an inch greater in each sex than were the general averages of all marked fish for each sex. Granting that the recovered fish consisted of representative age classes and making due allowance for possible growth in the lower age classes it would appear that very little, if any, annual growth takes place in mature individuals. In other words they remain dwarf and do not develop into larger individuals that might be confused with typical *connersonnii*.

In analyzing the above data it is apparent that there is a definite tendency on the part of the breeding suckers to return annually to the identical spawning stream. The movements of the suckers after they reenter Wolf Lake are unknown except that they inhabit the deeper areas. Those that shifted from the North Inlet to the South Inlet, or vice versa, had to travel at least one and one-fourth miles (the length of Wolf Lake) within a year’s time and in so doing meet individuals that had spawned in a tributary at the opposite end of the lake.

Wolf Lake has two rather deep areas—one near the north end and the other near the middle. These have maximum depths of 45 feet and 40 feet, respectively. Between these two areas the depth decreases to twenty feet. This suggests that the suckers may not have a common habitat during their stay in the lake and that the northernmost deep area is occupied to a great extent by the suckers that spawn in the North Inlet and the other deep area by those that spawn in the South Inlet. Likewise, the migration from one deep
area to the other may explain in part the reason for the change of spawning areas in the case of the eighteen individuals encountered.

The tributary streams were seined very thoroughly during the sucker spawning season and it is believed that more than 75 percent of the fish were captured. Thus most of the fish marked in the 1938 season would have been included in the catch had they been present. It is definitely known that some of the 1349 fish that failed to appear lost their lives through predation even before they left the spawning beds that year but this would not account for the entire number. Since Wolf Lake is inhabited by large lake trout that are known to feed almost exclusively on fish it is safe to assume that, at least, some of the marked dwarf suckers were taken by the trout. Likewise herring gulls, loons and other predatory animals undoubtedly take their toll. Then too it is possible, though not probable, that some of the suckers spawn in the lake itself as do certain other species of fish which prefer streams for spawning purposes but in lieu of suitable streams are content to use lake shoals.

**AGES**

A study of the scales collected from about 500 breeding suckers shows that the majority of the fish were in the 3-, 4-, and 5-year age classes. The oldest individual was seven years of age and the youngest three years. There was very little, if any, correlation between age classes and size classes. However, a few of the older fish were larger than the usual run. This seems to indicate that the suckers grow quite rapidly the first three or four years of their existence, after which there is little or no growth. The average lengths of the fish marked in 1938 and recovered the following year compared favorably with the general average for the totals of the two years. In fact the averages for each sex of recovered fish was only three-tenths of an inch greater than the general average for each sex the year previous.

**ASSOCIATED FISH**

Horned dace (*Semotilus atromaculatus*) were commonly associated with dwarf suckers on the spawning areas. The lower portion of the streams was better suited as nesting sites for the dace, consequently there was only a slight overlapping of the breeding habitat of the two species. The dace, apparently, do not interfere in any way with the suckers.
Fig. 62. A pair of dwarf suckers—the upper fish a five-inch male, the lower fish a five and three-fourths-inch female.

Fig. 63. Dwarf suckers with extra fins. The upper fish with extra fin on right ventral side, the lower one with extra fin adjoining caudal and with enlarged anal fin.
Both adult and young native brook trout were found in the streams, particularly the North Inlet. An occasional adult was sufficiently large to be considered legal size for catching. The young trout of the North Inlet were but slightly larger than sac-fry and as such must have been hatched in that stream. They were fairly common.

An occasional northern sculpin (Cottus cognatus) was observed on the sucker spawning beds. Those that were collected had been feeding on sucker eggs to a large extent. Aquatic insects were also included in their food so that they do not feed exclusively on fish eggs, even when an abundant supply is at hand.

Black-nosed dace (Rhinichthys atratulus) and cut-lips (Exoglossum maxillilngua) were occasionally in the association, particularly the latter.

**ABNORMALITIES IN FINS**

A number of dwarf suckers were encountered during the course of the study that either had more than the usual complement of fins or had fins that were quite abnormal. The first specimen that came to my attention was a six-inch male with an extra fin on the right ventral side of the body about midway between the pectorals and the ventrals. While it was as long as a regular ventral fin it contained only two but very stout rays (Fig. 63).

Another 5-inch male had an extra fin of seven rays attached to the caudal peduncle ventrally to the caudal fin. It was partly attached also to the lower lobe of the caudal at its base. It extended downwards and backwards similarly to the anal (Fig. 63). Strangely enough it was quite profusely covered with pearl organs. The caudal fin was normal in every respect except position—the extra fin had crowded it upwards. The anal fin was larger than normal so that the last few rays overlapped on the extra fin. There was only an open space of 5mm. on the caudal peduncle between the anal fin and the extra fin.

Both pectoral fins on a six-inch female were very short and stubby—scarcely one-half normal size. In fact they were only one-half inch long and contained only three rays each.

A four and one-half-inch male was minus the left ventral fin and from appearances had always been so. The right ventral was scarcely half normal length and contained only four rays.

Another four and one-half-inch male was found with its pair of ventral fins emerging at a common point on the median ventral line. The fins were joined in a narrow plane along the middle ray giving the appearance of an "x" arrangement for the combination.
CASUALTIES

Predatory animals are quick to take advantage of an opportunity to obtain abundant food with little effort and such was the case with the dwarf suckers at Wolf Lake. Some of the victims were left in the streams, frequently with only the heads removed. Foxes, bear, raccoons, mink and otter are known to occur in the general vicinity but it has never been determined which is responsible for these losses. Large yellow perch captured during late May in the deeper part of Deer Pond, on the Huntington Forest tract, had been feeding on dwarf suckers to a considerable degree.

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Dence, W. A.
1937. Wild Life of the Archer and Anna Huntington Wild Life Forest Station. Part II. Preliminary Reconnaissance of the Waters of the Archer and Anna Huntington Wild Life Forest Station and Their Fish Inhabitants. Roosevelt Wildlife Bull., Vol. 6, No. 4, pp. 610-672.

Greeley, J. R., and C. W. Greene

Greeley, J. R., and S. C. Bishop

Kendall, W. C., and W. A. Dence

Mather, Fred
PART IV. ANNOTATED LIST OF THE FERNS AND FLOWERING PLANTS OF THE HUNTINGTON WILDLIFE STATION

By

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PREFACE

In recent decades, many extensive tracts of land have been designated as experimental areas, devoted to scientific investigation. Frequently these lands have been controlled by forestry organizations and have served for experimentation in forest land use, including wildlife management, range management, soil conservation, and recreation, as well as for timber growing. In all instances, a detailed inventory of the natural resources is requisite for productive research, and one of these requisites is a knowledge of the kinds of plants that grow on and near the area. This annotated flora of the Archer and Anna Huntington Wildlife Forest Station, has been prepared for that purpose.

The present publication, completed in partial fulfillment of the requirements for the degree of Master of Science at the New York State College of Forestry, is the first of a projected series of floristic surveys of experimental areas controlled by the forestry college. It will be followed in due time by similar investigations on the Pack Demonstration Forest, Warrensburg, N. Y., the Pack Experimental Forest, Cranberry Lake, N. Y., and the Ranger School Forest, Wanakena, N. Y. The flora of the Salamanca Forest is included in the Flora of the Allegany State Park Region, N. Y. State Museum Handbook 2, 1927, by Homer D. House; and the flora of the Syracuse Forest Experiment Station will form part of the Flora of Onondaga County, now in course of preparation.

Mr. Heady has made very extensive collections on the Forest. All previous surveys, notably those of Homer D. House in Newcomb Town, have been investigated. The more complex taxonomic groups have been identified by specialists. All collections have been compared with herbarium material, and annotations have been written specifically for the Forest area. It is believed that the bulletin will serve well as a source of basic information for future scientific research on the Forest.

FRANK E. EGLER
ACKNOWLEDGMENTS

The author wishes to express his indebtedness to Dr. Frank E. Egler, Assistant Professor, Department of Forest Botany and Pathology, under whose supervision the floristic survey has progressed; also to Professor R. T. King, Director of the Roosevelt Wildlife Forest Experiment Station, for his willing support, cooperation, and hospitality at all times; and to Dr. H. D. House, State Botanist, Albany, N. Y., for valuable assistance in making determinations, for use of a manuscript of the flora of Newcomb Town, and for access to the herbarium of the New York State Museum. The author is also indebted to the following persons for determinations of the species in the groups mentioned: E. J. Alexander, New York Botanical Garden, Violaceae and Compositae; Carleton R. Ball, United States Department of Agriculture, Salix; L. H. Bailey, Bailey Hortorium, Rubus and cultivated plants; Earl L. Core, West Virginia University, Cyperaceae; Donovan S. Correll, Harvard University, Ophioglossaceae, Osmundaceae, and Polypodiaceae; F. J. Hermann, United States Department of Agriculture, Juncaceae; Mildred E. Mathias and Lincoln Constance, University of California, Umbelliferae; E. J. Palmer, Arnold Arboretum, Crataegus; Alfred Rehder, Arnold Arboretum, Rosa; and Reed C. Rollins, Harvard University, Cruciferae.
INTRODUCTION

Location and Activities of the Huntington Forest. The Archer and Anna Huntington Wildlife Forest Station,* held in trust by Syracuse University for the New York State College of Forestry, is a rectangular 15,000-acre tract of land in the central part of the Adirondack Mountains west of the village of Newcomb, New York.

By the provisions of the deed of trust from the previous owners, Archer M. and Anna H. Huntington, the Huntington Forest is for the use of the New York State College of Forestry, “for investigation, experiment and research in relation to the habits, life histories, methods of propagation and management of fish, birds, game, food and fur-bearing animals (mammals) and as a forest of wildlife” (Johnson and Dence, '37).

The Environment of the Vegetation. Geology. The entire Adirondack region has been subjected to many complex changes, including marine deposition, folding, uplift, peneplaining, igneous activity, faulting and glaciation. The rocks, because of these complexities, include metamorphic sediments, gneisses, quartzites, and crystalline limestones (Fenneman '38). All of these formations have been subjected to tremendous pressures which have folded and thoroughly metamorphosed them (Miller, '14). The oldest of the rocks belong to the Grenville formation, a metamorphosed series of folded sedimentary rocks composed of marbles with interbedded quartzites and schists.

The major portion of the Huntington Forest, which includes the mountainous parts, is underlain by resistent syenite and granitic material. Many of the other areas of softer more easily eroded marbles have been worn away to form depressions, for example, Newcomb valley. A few valleys, however, follow fault lines or cross joints (Balk, '32; Cushing, '07; Miller, '17).

Glaciation has changed the surface features very slightly, having only a smoothing effect on the general topography. Many lakes, of which Wolf Pond is an example, have been formed by morainal damming of valleys. Glacial till, varying in thickness from a few inches on the hillsides to probably not more than 100 feet in the valleys, covers quite completely the underlying formation. Cushing (‘07) reports morainic deposits in considerable quantities around Corner Pond and on the east and west slopes facing Catlin Lake.

* Hereafter referred to as the Huntington Forest or Forest.
Balk ('32) reports another deposit along the north shore of Rich Lake.

Topography and Drainage. Surrounded by the highest peaks of the Adirondacks on the north and northeast, and by only slightly lower mountains to the west, south, and east, the Forest has an average elevation of 1800 to 2000 feet above sea level, and a range of altitude from 1560 feet at Lake Belden to 2693 feet at the summit of Goodnow Mt. Other than swamps and meadows relatively level areas are exceptional. Occasional precipitous rock faces with talus beneath (following two major fault systems) occur both on the southeast and southwest sides of the higher peaks (Bowman, '11).

The rectilinear drainage system (Balk, '32) on the Forest, including eleven named bodies of water and numerous streams, drains through Rich Lake to the Hudson River. The gradient of all streams above 1700 feet is quite steep, most of them flowing over rocky irregular beds. Below 1700 feet, as shown by the drainage from Catlin Lake to Rich Lake, the streams flow sluggishly through numerous swampy areas in broad valleys.

Soils. For the most part, the soils of the Huntington Forest are podzols. Accumulations of sandy glacial till, granitic (acidic) parent material, low temperatures, high rainfall, and forest vegetation—all present on the Forest—are the primary factors of podzol formation (Kellogg, '36). Scattered over the Forest in low poorly drained depressions and occasionally along lake shores are small areas of peat and muck. In several places clay underlies the sandy beaches of Catlin Lake.

The three mor types of humus that are recognized by Heiberg ('37) occur on the Forest, of which the granular mor is the most common, more or less corresponding with the mixed conifer hardwood forest type. Fibrous mor is the common type in the spruce flats; however, the soil tends towards a greasy mor if hemlock is a dominant in the stand (Heimburger, '34).

Mull types of humus on the Forest are limited to the areas underlain by calcareous strata of the Grenville series (Heimburger, '34).

Climate.* Definite data concerning the temperature, precipitation, and winds of the Huntington Forest are not available, but records of use in determining the general climate have been kept at several stations within the Adirondack Mountains; namely: Lake Placid (1864 feet elev.), 23 miles northeast; Saranac Lake (1620 feet elev.),

* All weather data from Mordoff ('34).
25 miles north; Tupper Lake (1700 feet elev.), 23 miles northwest; and Indian Lake (1660 feet elev.), 13 miles south of the Forest.

In order to express graphically the seasonal variations in precipitation and temperature, Raunkiaer's (34) hydrotherm figures have been adopted. The curves (Fig. 64) connect points which represent averages of monthly means from the four stations listed above. The favorable and unfavorable seasons, as far as they are dependent upon moisture and heat, are shown as crests and troughs in the curves. With the yearly precipitation curve consistently high, as it is in this case, the vegetation can well tolerate the high temperatures of July and August. During the long, extremely cold winters, moisture accumulates in the form of snow which adds to the effectiveness of

Fig. 64. Hydrotherm figure for the Adirondack Mountains. — Temperature curve; ———— Precipitation curve. The numbers on the ordinate indicate both degrees Centigrade and centimeters of precipitation.
the spring precipitation by raising the level of the ground water. Another factor which may influence the vegetation is the relatively short frost-free period of about 100 days.

The prevailing winds of the Adirondack Mountains are westerly. However, local topographic conditions control the wind direction, so that the prevailing directions on the Forest are merely those of local currents.

**Methods.** During the growing season of 1939, approximately twelve weeks in the months of May, June, July, and September were spent in the field. At least three-fourths of this time was spent in collecting plant material and the remainder in identifying the specimens collected. By using an abundance of fresh material, many difficult determinations could be made readily.

Because species are in condition for collecting at different times during the growing season, several visits to the many localities were necessary. The trips did not repeat any particular pattern except that trails and roads were often followed. Since the ranges of many species are limited to such sites as clearings, ridges, bogs, rock slides, lake shores, and camps, every effort was made to visit such places on several different occasions.

At the time each plant was collected, it was given a number, tagged, and placed in a vasculum, and later the specimens were placed between newspapers, blotters, and corrugated cardboard driers in an ordinary plant press. To preserve as much color as possible and to save time, the press was then placed on edge in a drier frame over three kerosene lanterns. With the exception of a few succulents and aquatics, twenty-four hours in the warm air was sufficient for drying.

Also at the time each plant was collected, a mimeographed field form (Fig. 65) was filled out in duplicate.

Location is used as a general term to mean the small area in which the plant was collected. All locations have been referred to obvious landmarks or physical improvements, and have been described in terms of named locality, elevation, site, exposure, and associated species. If a plant was collected on the gridded experimental area (check area) within the Huntington Forest, the location was referred to the control lines, e.g., corner of J-8: D-line, 4 chains south of 11, etc. The lettered series are compass lines one-fourth mile apart extending in NW-SE directions, and the numbered lines are similarly established at right angles to them.
The term "exposure" indicates relative exposure to conditions of light and shade. The following four classes were recognized: (1) open, indicating that the plants were in full sunlight most of the day; (2) moderately open, indicating that the plants were shaded part of the day as they would be under scattered trees; (3) moderately shaded, indicating that the plants were in shade most of the day, as in small openings in the forest where large trees had fallen; and (4) closed, indicating that the plants were shaded the entire day, as in a dense stand of second growth trees or under a dense cover of bracken fern. At best this system is relative and only as accurate as the collector's judgment, although it does give a general picture of the light requirements.

Any pertinent facts, especially those concerning frequency, other than those given under the various headings, are listed under

**FLORA OF HUNTINGTON FOREST**

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<tr>
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<td></td>
<td>White cedar</td>
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<tr>
<td></td>
<td>Spiraea latifolia</td>
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<tr>
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<td>Hypericum virginicum</td>
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**Remarks**

Few small patches along the shore of Rich Lake; rare

**Det. by** H. Heady

**Coll. by** H. Heady

Fig. 65. Sample of the field notes.
“Remarks”. No attempt has been made to distinguish between frequency (distribution in space) and abundance (number of individuals), but rather to embrace both in one set of terms as follows: (1) rare, indicating solitary or very small groups of plants widely separated; (2) scarce, few individuals or small groups of plants occurring infrequently; (3) occasional, not numerous individuals, occurring frequently; (4) common, numerous individuals occurring commonly; and (5) very common, large numbers of individuals forming a conspicuous part of the vegetation.

All specimens determined by the writer were identified by comparison with material at the herbarium of the New York State Museum, Albany, New York.

Each collection, with few exceptions, contained enough material for four herbarium sheets. The first of these sets is deposited in the Herbarium of the Department of Forest Botany and Pathology, New York State College of Forestry, Syracuse, New York; the second set is the property of the Roosevelt Wildlife Forest Experiment Station, New York State College of Forestry; the third is in the Herbarium of the New York State Museum; and the fourth is being retained by the author.

Explanation of the Catalog. The species in the following list are included mainly on the basis of collections made by the writer during the 1939 growing season. In addition to these are some Huntington Forest plants now at the New York State College of Forestry, which were collected by Earl L. Stone, and the more extensive collections of H. D. House from Newcomb and vicinity in the Herbarium of the New York State Museum. For species not collected by the author, verbatim citations are given in the text.

The order of families is that of Engler's Syllabus der Pflanzenfamilien (11th edition). The nomenclature follows, in-so-far as possible, the International Rules of Botanical Nomenclature. Synonyms are included for making the list referable to current manuals such as Wiegand & Eames' Flora of the Cayuga Lake Basin, New York, House's Annotated List of the Ferns and Flowering Plants of New York State (1st edition), Britton & Brown's Illustrated Flora of the Northern States and Canada (2nd edition), and Fernald & Robinson's Gray's New Manual of Botany (7th edition). Names which have more recently come into use are usually accompanied by a reference to the place of publication of the critical literature. The common names, listed in order of preference, are taken mainly from
Wiegand & Eames, and are supplemented by those in House's Annotated List.

The numbered species and varieties include all those plants which have been found to date within the boundaries of the Forest. No attempt has been made to list separately cultivated, native, naturalized, and adventive plants; for those that exist only in cultivation within the Huntington Forest the word "cultivated" is added. The cultivated plants, including fruits and vegetables, occurring outside the boundaries of the Forest are not included. Certain other species (hop, grape, lilac, etc.) may persist as individuals after cultivation, and they are so designated. Plants which are not known to occur within the boundaries of the Forest but which have been collected in the vicinity are inclosed in brackets.


**THE VASCULAR FLORA OF THE HUNTINGTON FOREST**

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ANOTATED LIST

Division I. PTERIDOPHYTA*

1. EUEQUISETALES

1. EQUISETACEAE (Horsetail Family)

Equisetum (Tourn.) L.

1. Equisetum arvense L. Common horsetail. Moist, well-drained sandy or gravelly soil, especially along the truck trail and state highway; occasional.


4. Equisetum sylvaticum L. var. pauciramosum Milde. Wood horsetail. Low, wet, sandy soils along creeks in moderately closed hardwood stands; occasional; often occurring in pure masses when the tree canopy is thin.

2. LYCOPODIALES

2. LYCOPODIACEAE (Club-moss Family)

Lycopodium (Dill.) L.

1. Lycopodium annotinum L. Stiff club-moss. Bristly club-moss. Moderately dry open woods, rocks and banks in moist shaded places, partially shaded edges of clearings, and roadsides; in the humus layer on sandy soils; occasional; often forming mats.

2. Lycopodium clavatum L. Common club-moss. Running-pine. Grassy banks, clearings, and roadsides; in dry sandy soils; occasional; often forming a mat along the edges of clearings near the state highway.

* The nomenclature of the Pteridophytes is that of Broun, '38.

Lycopodium complanatum var. flabelliforme of W. & E., of Gray, and of House.
Lycopodium complanatum, in part, of B. & B.

Dry banks, old fields (under white pine stands), and clearings; on sandy soil; common. Often forms a mat in thin bracken areas of recent burns and beaver cuttings.

4. Lycopodium inundatum L. Bog or marsh club-moss.


Rich moist woods of hemlock and hardwoods; on sandy well-drained soil; very common. Occasionally in clearings forming mats under isolated trees.


Lycopodium obscurum, in part, of B. & B.

Moderately dry woods, edges of clearings, and open areas; in sandy soils; common; usually forming a mat.


Found only once; on a dry, open, sandy bank in The Fallow; rare.

3. [ISOÉTALES]

3. ISOÉTACEAE (Quillwort Family)

Isoëtes L.

1. Isoëtes braunii Durieu. Braun’s quillwort.

Isoëtes echinospora var. braunii of W. & E. and of Gray.

Submerged in shallow water along the mucky shores of lakes Catlin, Rich, and Harris; scarce. Gynospores with slender or jagged spines; plants usually partially emersed.

2. Isoëtes tuckermani A. Br. ex Engelm. Tuckerman’s quillwort.

4. OPHIOGLOSSALES

4. OPHIOGLOSSACEAE (Adder's Tongue Family)

Botrychium Sw.

[Botrychium dissectum Spreng. var. obliquum (Muhl.) Clute.]

_Cut-leaved grape fern._

Botrychium dissectum, in part, of W. & E.
Botrychium obliquum of Gray and of B. & B.
Botrychium obliquum var. dissectum of House.

Collection of H. D. House, “No. 11354, old pasture on river trail
one half mile below Hudson River Bridge, Newcomb, September 8,
1925”.

[Botrychium matricariaefolium A. Br. ex Koch. _Matricary
grape fern._

Botrychium neglectum of House and of B. & B.
Botrychium ramosum of Gray.

Collection of H. D. House, “No. 10952, moist soil, open field,
Newcomb, July 2, 1925”.

[Botrychium multifidum (S. G. Gmel.) Rupr. var. _silaifolium
(Presl) Braun._

_Leathery grape fern._

Botrychium silaifolium of House and of B. & B.
Botrychium ternatum var. intermedium of W. & E. and of Gray.

Collection of H. D. House, “No. 11349, moist soil in pasture,
Newcomb, September 7, 1925”.

[Botrychium simplex Hitchc._

_Little grape fern._

Collection of H. D. House, “No. 9359, sandy thickets, Newcomb,
June 23, 1923”.

1. Botrychium virginianum (L.) Sw. _Rattlesnake fern._

_Grape fern._

Shaded roadsides, and woodlands; in dry or moist rich sandy
soil; scarce.

[Ophioglossum (Tourn.) L._

[Ophioglossum vulgatum L._

_Adder's-tongue fern._

Collection of H. D. House, “No. 8063, wet marshy meadow, New-
comb, June 7, 1922”.
5. EUFILICALES

5. OSMUNDACEAE (Flowering Fern Family)

**Osmunda** (Tourn.) L.

1. **Osmunda cinnamomea** L. **CINNAMON FERN.**
   Swamps, bog margins, creek banks, and low depressions in woods; in wet organic soil; common. Fertile and sterile fronds separate, the latter bipinnatifid; pinnae of sterile frond with tufts of tomentum at the base.

2. **Osmunda claytoniana** L. **INTERRUPTED FERN.**
   Clearings, stream banks, bog margins, and low depressions in woods; in wet sandy or mucky soil; common. Frond fertile in the middle; bipinnatifid; pinnae lacking tufts of tomentum at the base.

3. **Osmunda regalis** L. var. **spectabilis** (Willd.) Gray. **ROYAL FERN.**
   Osmunda regalis of Gray and of B. & B.
   Creek banks, lake shores, bog margins, and swamps; in wet mucky or sandy soil; common; usually associated with alder. Frond fertile at the tip, 2-pinnate.
   A European species, represented in America by the variety.

6. POLYPODIACEAE (Fern Family)

**Adiantum** (Tourn.) L.

1. **Adiantum pedatum** L. **MAIDENHAIR FERN.**
   Wooded ridges and slopes; in moist humus layer on sandy soil; occasional.

**Athyrium** Roth

1. **Athyrium angustum** (Willd.) Presl. **LADY FERN.**
   *Asplenium filix-femina* of Gray.
   *Athyrium filix-femina* of B. & B.
   Clearings, bogs, creek banks, and low woodlands; in wet mucky or sandy soil; common.
   A shade form (H. F. Heady, No. 509) with larger less coriaceous fronds was identified by Donovan S. Correll as var. *rubellum* (Gilbert) Butters, with characters which intergrade in nature with those of the typical species, a smaller sun form. This form is considered a phenotypic epharmone on the Forest, not worthy of nomenclatural recognition.
Fig. 66. The white ash stand in Ackerman Clearing. Photo by E. F. McCarthy.

Fig. 67. White birch along shore of Rich Lake. Photo by C. E. Johnson.
Fig. 68. Bracken following a burn near Deer Pond. Beaver lodge in foreground. Photo by E. F. McCarthy.

Fig. 69. Interrupted fern (*Osmunda claytonia*). Photo by C. E. Johnson.
Cystopteris Bernh.


*Felix bulbifera* of House and of B. & B.

Shaded lake shores and woods; in moist humus and especially on calcareous outcrops; scarce. Fronds bulblet-bearing, broadest at the base, and long-tapering; indusium truncate on the free side.


*Cystopteris fragilis*, in part, of W. & E. and of Gray.

*Felix fragilis*, in part, of House and of B. & B.

Shaded rocky slopes and cliffs; in moist organic soil; scarce. Fronds not bulblet-bearing, scarcely broader at the base, and short-pointed; indusium acute at free end. Differs from *Cystopteris fragilis* by having pinnules widest at or above the middle and indusium nearly entire.

Dennstaedtia Bernh.


*Dicksonia punctilobula* of Gray.

Clearings, swamp margins, and wooded slopes; in moist organic layer on sandy soil; common; forming nearly pure stands in The Fallows.

Diplazium Sw.


*Asplenium angustifolium* of Gray.

*Asplenium pycnocarpon* of B. & B.

*Asplenium angustifolium* of W. & E.

*Asplenium pycnocarpon* of House.


[Diplazium thelypteroides (Michx.) Presl. Silvery spleenwort.

*Asplenium acrostichoides* of Gray.

*Asplenium acrostichoides* of W. & E.

*Asplenium thelypteroides* of House and of B. & B.

Dryopteris Adans.

1. Dryopteris campyloptera (Kunze) Clarkson. Spreading shield fern.

   Aspidium spinulosum var. dilatatum forma aduncium of Gray.
   Thelypteris dilatata var. americana of House.

   One station on the top of Catlin Mountain; in organic soil on rocks; rare.


   Aspidium cristatum var. clintoniana of Gray.
   Thelypteris clintoniana of House.

   Collection of H. D. House, "No. 26623, woods east end of Rich Lake, July 5, 1939".


   Aspidium cristatum of Gray.
   Thelypteris cristata of W. & E. and of House.

   Clearings, swamps, bogs, and springy stream banks, in wet organic and sandy soil; common.

   Dryopteris cristata x intermedia

   Aspidium boottii of Gray.
   Thelypteris cristata x intermedia of House.

   On the Forest, this segregate, identified by Donovan S. Correll as Dryopteris boottii (Tuckerm.) Underw., is apparently of hybrid nature.

4. Dryopteris fragrans (L.) Schott. Fragrant fern.

   Aspidium fragrans of Gray.
   Thelypteris fragrans of House.

   Collection of E. L. Stone, "No. 77, organic material in crevice; under an overhanging cliff on Panther Mountain near the 13-line, June 18, 1938".


   Aspidium goldianum of Gray.
   Thelypteris goldiana of W. & E. and of House.

   Shaded ridges and slopes; in moist humus layer on rocks and sandy soil; occasional.
6. **Dryopteris intermedia** (Muhl.) Gray. **American shield fern.**  
   *Aspidium spinulosum* var. *intermedium* of Gray.  
   *Thelypteris intermedia* of House.  
   *Thelypteris spinulosa* var. *intermedia* of W. & E.  
   Roadsides, clearings, swamps, and rich woods; in moist sandy soil rich with organic material; very common.

7. **Dryopteris marginalis** (L.) Gray. **Marginal shield fern.**  
   *Aspidium marginale* of Gray.  
   *Thelypteris marginalis* of W. & E. and of House.  
   Shaded ridges and slopes; in moist humus on sandy soil; occasional.

8. **Dryopteris noveboracensis** (L.) Gray. **New York fern.**  
   *Aspidium noveboracensis* of Gray.  
   *Thelypteris noveboracensis* of W. & E. and of House.  
   Woods and stream banks; in wet sandy soil; common.

9. **Dryopteris spinulosa** (O. F. Müller) Watt. **Spiny-toothed shield fern.**  
   *Aspidium spinulosum* of Gray.  
   *Thelypteris spinulosa* of W. & E. and of House.  
   Wooded slopes, stream banks, and edges of clearings; in moist organic layer on sandy soil; occasional. Differs from *Dryopteris campyloptera* and *Dryopteris intermedia* by having glabrous indusia.

    *Aspidium thelypteris* of Gray.  
    *Dryopteris thelypteris* of B. & B.  
    *Thelypteris palustris* of W. & E.  
    *Thelypteris thelypteris* of House.  
    Marshes, swamps, and bog margins; in wet mucky soil; scarce. *Dryopteris thelypteris* is a Eurasian fern (see *Rhodora* 31: 34. 1929).

1. **Onoclea sensibilis** L. **Sensitive fern.**  
   Springy slopes, creek banks, and shaded depressions; in wet mucky and sandy soil; occasional.

**Phlegopteris** Fée

1. **Phlegopteris dryopteris** (L.) Fée. **Oak fern.**  
   *Dryopteris dryopteris* of B. & B.  
   *Thelypteris dryopteris* of W. & E. and of House.  
   Wooded hillsides, creek banks, and bog margins; in moist humus; common. Fronds ternate, the three divisions petioled.
2. Phegopteris polypodioides Fée.  

*Beech fern.*

*Dryopteris phegopteris* of B. & B.  
*Thelypteris phegopteris* of W. & E. and of House.

Wooded hillsides, creek banks, and low depressions; in wet humus layer on sandy soil; common. Fronds twice pinnatifid; pinnae all sessile.

**Polypodium** (Tourn.) L.

1. *Polypodium virginianum* L.  

*Common polypody.*

*Polypodium vulgare* of Gray and of B. & B.

Moist humus capping boulders in shaded woodlands; occasional.

**Polystichum** Roth

1. *Polystichum acrostichoides* (Michx.) Schott.  

*Christmas fern.*

Ridges and wooded slopes; in moist humus on sandy soil; occasional. Fronds 1-pinnate.


*Eastern holly fern.*

*Polystichum braunii* of House, of B. & B., and of Gray.

Rocky woods and talus slopes; in moist humus pockets between the rocks; scarce. Fronds 2-pinnate. *Polystichum braunii* is a European species (see *Rhodora* 30: 30. 1928).

**Pteretis** Raf.


*Ostrich fern.*

*Matteuccia struthiopteris* of B. & B.  
*Onoclea struthiopteris* of Gray.

Creek banks and low depressions; in wet mucky and sandy soil; scarce.

**Pteridium** Scop.

1. *Pteridium latiusculum* (Desv.) Hieron. ex R. E. Fries.  

*Eastern bracken. Common brake.*

*Pteridium aquilinum*, in part, of B. & B.  
*Pteris aquilina*, in part, of Gray.

Clearings and old burns; in dry sandy soil; very common, forming pure stands. Small scattered plants generally distributed throughout the forest.
Division II. spermatophyta
Subdivision I. Gymnospermae
6. [Coniferales]
7. Taxaceae (Yew Family)

Taxus (Tourn.) L.

   Moist rich woods of spruce and balsam; in organic soil on large rocks; rare; only three stations known.

8. Pinaceae (Conifer Family)

Abies (Tourn.) Hill

   Present in nearly all sites, very common.

Larix (Tourn.) Adans.

   Bogs, along creeks, and lake shores; in wet mucky soils; occasional.

Picea Link

   A few trees along the state highway; in dry sandy soil; rare. In a forest planting; not known to be naturalized.

   Picea canadensis of Gray and of B. & B.
   A few large trees, in dry sandy soil of one of the clearings near the state highway; rare. Probably planted.

3 Picea mariana (Mill.) BSP. Black or swamp spruce.
   One station in the sphagnum bog one-fourth mile south of Wolf Pond; rare, although common in bogs in the vicinity. Picea mariana is best distinguished from Picea rubra in having smaller incurved

[Woodsia R. Br.]

[Woodsia ilvensis (L.) R. Br. Rusty woodsia.
   Collection of H. D. House, "No. 10249, rocks, Newcomb, July 9, 1924: rare."
cones which are persistent on the branches up to thirty years. The cones of *Pinus rubra* begin to fall as soon as the scales are open, and have fallen by the following summer. The twigs of both species are always more or less pubescent.

4. **Pinus rubra** (DuRoi) Dietr. **Red spruce.**

*Pinus rubens* of House and of B. & B.

Climax forest; a dominant species of well-drained wet slopes at low elevations and of exposed rocky well-drained slopes above 2200 feet; very common.

**Pinus** (Tourn.) L.

1. **Pinus resinosa** Ait. **Red or Norway pine.**

Moist well-drained sandy soil near the ranger station; rare. Planted and not observed to be naturalized.

2. **Pinus strobus** L. **Northern white pine.**

Lake shores, bogs, plantations, and clearings; in moist well-drained sandy soil; common. Indicative of old fields when it occurs in pure stands. Attains best growth in mixture with the hardwoods.

**Thuja** L.

1. **Thuja occidentalis** L. **Arbor vitae. White cedar.**

Bogs, stream banks, and lake shores; in poorly drained soils; common.

**Tsuga** (Endl.) Carr.

1. **Tsuga canadensis** (L.) Carr. **Hemlock.**

Climax forest; low elevations, near streams, swamps, and lakes; in moist rocky well-drained soils; common.

Subdivision II. **ANGIOSPERMAE**

Class I. **MONOCOTYLEDONEAE**

7. **PANDANALES**

9. **TYPHACEAE** (Cattail Family)

**Typha** (Tourn.) L.

1. **Typha latifolia** L. **Broad-leaved cattail.**

Marshy area along the creek east of the truck trail entrance; in wet mucky soil; rare.
10. SPARGANIACEAE (Bur-reed Family)

**Sparganium** (Tourn.) L.

1. *Sparganium americanum* Nutt. **Nuttall’s bur-reed.**
   Open wet places along the edges of lakes and stagnant ponds; in mucky soil; occasional.

2. *Sparganium angustifolium* Michx. **Narrow-leaved bur-reed.**
   Floating-leaved aquatic, rooted in mucky soil; occasional in about 0.5 m. of water in ponds and slowly flowing streams.

3. *Sparganium chlorocarpum* Rydb. var. *acaule* (Beeby) Fern. **Stemless bur-reed.**
   Open areas near water; in sandy or mucky soil; common. The variety differs from the species by having a very short stem.

4. *Sparganium fluctuans* (Morong) Robinson. **Floating bur-reed.**
   Floating-leaved aquatic, rooted in mucky soil; occasional in 0.3-1 m. of water in lakes and ponds. Inflorescence somewhat corymbose at maturity.

8. **HELOBIAE**

II. POTAMOGETONACEAE (Pondweed Family)*

**Potamogeton** (Tourn.) L.

1. *Potamogeton amplifolius* Tuckerm. **Large-leaved pondweed.**
   Floating-leaved aquatic; rooted in mucky soil; occasional in 1-2 m. of water. Floating leaves 5-10 cm. long, 2-5 cm. broad, 30-50 nerved. Submersed leaves usually 2.5-7 cm. broad.

2. *Potamogeton capillaceus* Poir. **Pondweed.**
   *Potamogeton dimorphus* of W. & E., of House, and of B. & B.
   *Potamogeton dimorphus* in part, of Gray.

   Rooted aquatic; in mucky soil; occasional in 0.3-1 m. of water. Floating leaves 1-2.5 cm. long. Submersed peduncles as long as the spikes.

3. *Potamogeton ephiphyclus* Raf. **Nuttall’s pondweed.**
   Floating-leaved aquatic; in mucky soil; very common in 0.5-1.5 m. of water of lakes and slowly flowing streams. Floating leaves 3-7.5 cm. long, 1-2.5 cm. broad, usually tapering into a short petiole.

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*The nomenclature of the linear-leaved potamogetons is that of Fernald, '32.
For *Sparganium minimum* Fries, see Addenda p. 368.
For *Potamogeton gramineus* L. var. *Graminifolius* Fries, see Addenda p. 368.*
4. **Potamogeton natans** L.  
*Common floating pondweed.*  
Floating-leaved aquatic; in sandy or mucky soil; common in 1-2 m. of water. Floating leaves 5-10 cm. long, 2.5-5 cm. wide, 20-30 nerved. Submersed leaves narrow, rarely 2 mm. wide.

5 **Potamogeton perfoliatus** L.  
*Clasping-leaved pondweed.*  
Submersed aquatic; rooted in sandy or mucky soil; occasional in 1-2 m. of water. Leaves all submersed, cordate-clasping with stipules rarely developed.

Submersed aquatic; rooted in mucky soil; occasional in 0.3-1 m. of water.

7. **Potamogeton robbinsii** Oakes.  
*Robbin’s pondweed.*  
Collection of W. A. Dence, “1.6 m. of water. north end of Catlin Lake, July, 1939”. All leaves immersed, narrow-lanceolate, and minutely serrulate.

8. **Potamogeton spirillus** Tuckerm.  
*Spiral pondweed.*  
*Potamogeton dimorphus*, in part, of Gray.  
Floating-leaved aquatic; rooted in sand or muck; common in 0.3-0.6 m. of water in lakes and slowly flowing streams. Differs from *Potamogeton capillaceus* in not having submersed peduncles.

[**Potamogeton sp.** Pondweed.  
Collection of H. D. House, “No. 15385. Lake Harris outlet, August 13, 1927”.

**[NAJADACEAE (Naiad Family)]**

[Najas L.]

[Najas flexilis (Willd.) Rostk. & Schmidt.  
*Slender naiad.*  
*Naias flexilis* of House and of B. & B.  
Collection of H. D. House, “No. 8436, Lake Harris, August 2, 1921”.

**[SCHEUCHZERIACEAE (Arrow Grass Family)]**

[Scheuchzeria L.]

[Scheuchzeria palustris L. var. americana Fern.  
Collection of H. D. House, “No. 10588. marsh, Lake Harris, August 9, 1924”. The American form of *Scheuchzeria palustris* (see Rhodora 25: 178. 1923).]
12. ALISMATACEAE (Water Plantain Family)

Sagittaria L.

Open moist beaches or shallow water; in sand; occasional. Leaves linear, rarely sagittate.

Slowly moving water, marshes, lake shores, and open beaches; in wet sandy or mucky soil; common. The leaf outline of this plant varies greatly, with many intergrading forms. Within the Forest no segregates have been found worthy of nomenclatorial recognition.

13. HYDROCHARITACEAE (Frog’s Bit Family)

Elodea Michx.


Philotria angustifolia of B. & B.
Philotria occidentalis of House.

Submersed aquatic; rooted in mucky bottoms of lakes and slowly moving streams; occasional.

9. GLUMIFLORAE

14. GRAMINEAE (Grass Family)*

Agropyron Gaertn.

1. Agropyron repens (L) Beauv. Quackgrass.
Roadsides and grassy clearings; in well-drained sandy soil; common.

[Agropyron pauciflorum (Schwein.) Hitchc. Slender wheat-grass.

Agropyron tenerum of Gray, of House, and of B. & B.
Collection of H. D. House, “No. 26853, banks along road 3 miles north of Tahawas, July 24, 1939”.


Agropyron caninum of W. & E., of Gray, of House, and of B. & B.
Roadsides and clearings; in moist sandy soil; scarce.

* The nomenclature of Gramineae is that of Hitchcock, ’35.
For Vallisneria americana Michx. see Addenda p. 369.
Agrostis L.

1. **Agrostis alba** L.  
   Roadsides and clearings; in moist sandy soil; common. Escaped from cultivation, and has become naturalized.

   [**Agrostis borealis** Hartm.  
   Collection of H. D. House, “No. 9357, thickets near Tahawas, June 23, 1923”.

2. **Agrostis hiemalis** (Walt.) BSP.  
   Ticklegrass.  
   Roadsides and clearings; in moist sandy soil; common. An occasional dwarfed form occurs on open mountain tops in organic soil on rocks.

   [**Agrostis palustris** Hubs.  
   Bentgrass.  
   *Agrostis alba* var. *maritima* of W. & E. and of Gray.  
   *Agrostis maritima* of B. & B.  
   Collection of H. D. House, “No. 10589, waste soil, Newcomb, August 9, 1924”.

3. **Agrostis perennans** (Walt.) Tuckerm.  
   Autumn bent.  
   Collection of H. D. House, “No. 26911, marsh at south end of Wolf Pond, August 14, 1939”.

4. **Agrostis tenuis** Sibth.  
   Colonial bent.  
   *Agrostis alba* var. *vulgaris* of Gray.  
   Clearings and roadsides; in wet poorly drained sandy soils; scarce. Escaped from cultivation and naturalized.

4a. **Agrostis tenuis** Sibth. var. *aristata* (Parn.) Druce.  
   Colonial bent.  
   Clearings; in sandy well-drained soil; scarce. Differs from the species by having lemmas awned from near the base.

Anthoxanthum L.

1. **Anthoxanthum odoratum** L.  
   Sweet vernal grass.  
   Roadsides and recently disturbed areas in clearings; in well-drained sandy soil; occasional.

Brachyelytrum Beauv.

1. **Brachyelytrum erectum** (Schreb.) Beauv.  
   *Dilepyrum erectum* of W. & E.  
   Moderately open rocky hillsides; in moist sandy soil; occasional.
Bromus L.

1. *Bromus ciliatus* L.  Fringed brome.
   Roadsides and clearings; in moist well-drained sandy soil; occasional.

   *Bromus latiglumis* (Scribn.) Hitchc.  Bromegrass.
   *Bromus altissimus* of W. & E. and of Gray.
   *Bromus purgans*, in part, of B. & B.
   Collection of H. D. House, "No. 26631, bank of Hudson River about 200 feet south of Bissell's Garage, Newcomb, July 5, 1939".]

Calamagrostis Adans.

   Marshes, meadows, and open woods; in wet mucky to sandy soil; common.

   Margins of bogs and marshes; in mucky to sandy soil; scarce.

Cinna L.

   Roadsides and moderately open woods; in moist sandy soil; occasional.

Dactylis L.

1. *Dactylis glomerata* L.  Orchard grass.
   Roadsides and clearings; in moist well-drained sandy soil; common.

Danthonia Lam. & DC.

   Clearings; in dry sandy or rocky soil; occasional.

Deschampsia Beauv.

   *Aira flexuosa* of House.
   Moderately open mountain tops and slopes; in organic soil on rocks; occasional.

   *Echinochloa Beauv.*

   *Echinochloa crusgalli* (L.) Beauv.  Barnyard grass.
   Collection of H. D. House, "No. 10692, waste ground, Newcomb, September 20, 1924".]
Elymus L.

   *Elymus striatus* of Gray, of W. & E., of House, and of B. & B.  
   Moderately closed hilltops under maple-ash-elm; in well-drained sandy and organic soils on rocks; rare.

2. *Elymus virginicus* L.  
   Low woodlands and along streams; in moist sandy soil; rare.

Festuca L.

1. *Festuca elatior* L.  
   Roadsides and waste places; in moist sandy soil; scarce. Escaped from cultivation, and has become naturalized.

2. *Festuca obtusa* Spreng.  
   *Festuca nutans* of W. & E., of Gray, and of B. & B.  
   Moderately closed mountain tops under maple-ash-elm; in well-drained sandy soil; scarce.

3. *Festuca rubra* L.  
   Roadsides and grassy clearings; in moist well-drained sandy soil; common.

Glyceria R. Br.

   *Panicularia borealis* of House and of B. & B.  
   Beaver dams and lake shores; in wet sandy or mucky soil; scarce.

2. *Glyceria canadensis* (Michx.) Trin.  
   *Panicularia canadensis* of House and of B. & B.  
   Bogs, beaver dams, marshes, and lake shores; in wet mucky or sandy soil; occasional.

<table>
<thead>
<tr>
<th><em>Glyceria canadensis</em> (Michx.) Trin. var. <em>laxa</em> (Scribn.) Hitche.</th>
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<tr>
<td><em>Glyceria laxa</em> of Gray.</td>
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<tr>
<td><em>Panicularia laxa</em> of House and of B. &amp; B.</td>
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</tbody>
</table>

   **Mannagrass.**
   *Glyceria neogaea* of Hitchcock, not of Steud. The type of *Glyceria neogaea* was found by Hitchcock in 1935 to be *Glyceria striata.*
   *Glyceria pallida* var. *feraldii* of Gray.
   *Panicularia fernaldii* of House.
   *Panicularia pallida*, in part, of B. & B.

   Beaver meadows in shallow water; rooted in mucky soil; rare.

   **Mannagrass.**
   *Glyceria torreyana* of Gray.
   *Panicularia melicaria* of House.
   *Panicularia torreyana* of B. & B.

   Roadsides, creek banks, and lowlands; in wet sandy or mucky soil; common.

5. Glyceria striata (Lam.) Hitchc.  
   **Fowl mannagrass.**
   *Glyceria nervata* of W. & E. and of Gray.
   *Panicularia nervata* of House and of B. & B.

   Creek banks and clearings; in wet sandy or mucky soil; common.

   **[Hierochloë R. Br.]**

   **[Hierochloë odorata (L.) Beauv.]**  
   **Sweetgrass.**
   *Hierochloë odorata* (L.) Wahl. of Gray.
   *Hierochloë odorata* var. *fragrans* of W. & E.
   Includes *Torresia nashii* of House.
   Includes *Torresia odorata* of House.
   Includes *Savastana nashii* of B. & B.
   Includes *Savastana odorata* of B. & B.

   Collection of H. D. House, "No. 8797, meadow near Newcomb, June 3, 1922".

   **[Hordeum L.]**  
   **Barley.**
   Collection of H. D. House, "No. 13483, spontaneous in a door-yard, Newcomb, October 3, 1926".

   **Leersia Sw.**

   1. *Leersia oyzoides* (L.) Sw.  
      **Rice cutgrass.**
      *Homalocenchrus oyzoides* of House and B. & B.

      Marsh at the head of Big Flow; in wet mucky soil; rare.

   **Milium L.**

   1. *Milium effusum* L.

      Moderately open ridges; in moist well-drained sandy or rocky soil; occasional.
Muhlenbergia Schreb.

1. **Muhlenbergia foliosa** (Roem. and Schult.) Trin.  
   *Muhlenbergia foliosa* Trin. of W. & E. and of Gray.  
   *Muhlenbergia mexicana* of B. & B.
   
   Beaver dams and low meadows; in wet mucky or sandy soil; scarce.

   [*Muhlenbergia racemosa* (Michx.) BSP.  
   *Satin-grass.*  
   Collection of H. D. House, "No. 8457, rocky banks of Hudson River near Tahawas, August 3, 1921".]

   [*Muhlenbergia sylvatica* Torr.  
   *Muhly.*  
   *Muhlenbergia umbrosa* of House and of B. & B.
   
   Collection of H. D. House, "No. 10724, moist soil, Newcomb, September 21, 1924".]

2. **Muhlenbergia uniflora** (Muhl.) Fern.  
   *Sporobolus uniflorus* of Gray, of House, and of B. & B.
   
   Bogs and meadows; in wet mucky soil; scarce.

Oryzopsis Michx.

1. **Oryzopsis asperifolia** Michx.  
   *Ricegrass.*  
   Hardwood slopes and ridges; in moist humus layer on sand or rocks; occasional.

Panicum L.

1. **Panicum boreale** Nash.  
   *Panicum.*  
   Clearings and lake shores; in moist sandy soil; scarce.

   [*Panicum capillare* L.  
   *Witchgrass.*  
   Collection of H. D. House, "No. 11400, garden weed, Newcomb, September 11, 1925".]

   [*Panicum huachucae* Ashe.  
   *Panicum lindheimeri* var. *fasciculatum* of W. & E.
   
   Collection of H. D. House, "No. 26646, open field near Newcomb, July 5, 1939".]

2. **Panicum implicatum** Scribn.  
   *Panicum lindheimeri* var. *implicatum* of W. & E.
   
   Roadsides and clearings; in sandy soil; occasional.
3. Panicum philadelphicum Bernh.  
Roadsides and clearings; in sandy soil; common.

[Panicum spretum Schult.  
Collection of H. D. House, “No. 10566, marshy shore of Lake Harris, August 17, 1924”.]

[Phalaris L.]

[Phalaris arundinacea L.  Reed canary grass.  
Collection of H. D. House, “No. 15379, shore of Lake Harris, August 13, 1927”.]

Phleum L.  
Timothy.

1. Phleum pratense L.  
Roadsides, clearings, and waste places; in well-drained sandy soil; common.

[Phragmites Trin.]

[Phragmites communis Trin.  Reed grass.  
Phragmites phragmites of House and of B. & B.  
Collection of H. D. House, “No. 10711, banks of Hudson River near Newcomb, September 21, 1924”.

Poa L.  
Bluegrass.

1. Poa alsodes Gray.  
Roadsides, lowlands, and wooded slopes; in moist organic layer on sandy soil; common.

2. Poa annua L.  Annual bluegrass.  
Along trail to lookout on Goodnow Mountain; in moist sandy soil; rare.

3. Poa compressa L.  Canada bluegrass.  
Clearings, roadsides, and low woods; in moist sandy soil; common.

Poa debilis of W. & E., of Gray, of House, and of B. & B.  
Beaver dams and margins of lakes and swamps; in wet mucky soil; occasional.

[Poa palustris L.  Fowl bluegrass.  
Poa triflora of Gray and of B. & B.  
Collection of H. D. House, “No. 10243, woods, Newcomb, July 9, 1924; apparently introduced”.
5. Poa pratensis L. Kentucky bluegrass.

Clearings, roadsides, abandoned camps, and open woods; in moist well-drained sandy soil; very common.


Open summit of Goodnow Mountain; in organic soil on rocks; rare.

**Schizachne** Hack.

1. **Schizachne purpurascens** (Torr.) Swallen. False melic.

Purple oat.

*Avena torreyi* of B. & B.
*Bromelica striata* of W. & E.
*Melica purpurascens* of House.
*Melica striata* of Gray.

Burns, roadsides, clearings, and low woodlands; in moist sandy or mucky soil; common.

**Setaria** Beauv.


*Chaetochloa glauca* of B. & B.
*Chaetochloa lutescens* of House.
*Setaria glauca* of Gray.

Roadsides and recently disturbed areas; in sandy soil; rare.

[**Setaria viridis** (L.) Beauv. Green foxtail.

*Chaetochloa viridis* of House and of B. & B.

Collection of H. D. House, "No. 15396, grain field near Newcomb, August 13, 1927".]

**Trisetum** Pers.

1. **Trisetum spicatum** (L.) Richt. Spike trisetum.

Collection of H. D. House, "No. 11022, small rocky bluff, east end of Rich Lake, June 13, 1925".

15. **Cyperaceae** (Sedge Family)

**Carex** L.*

[**Carex aenea** Fern. Hay sedge.

Collection of H. D. House, "No. 7397, woods near Newcomb, July 15-30, 1920".]

* The nomenclature of Carex is that of Mackenzie, '31 and '35.
For *Zea Mays* L. see Addenda p. 369.
1. **Carex angustior** Mackenzie. *Northern prickly sedge.*  
*Carex leersii* of B. & B.  
*Carex stellulata* var. *angustata* of Gray.  
Beaver dam near Deer Pond; in wet organic soil near the water.

2. **Carex annectens** Bicknell. *Yellow fox sedge.*  
*Carex setacea* var. *ambigua* of Gray.  
Collection of H. D. House, “No. 26817, roadside along Catlin Lake, July 24, 1939”.

3. **Carex arctata** Boott. *Drooping wood sedge.*  
Shaded uplands and along trails; in moist rich sandy soil.

4. **Carex aurea** Nutt. *Golden-fruited sedge.*  
Clearings and recently disturbed areas; in moist sandy soil.

5. **Carex baileyi** Britton. *Bailey’s sedge.*  
*Carex lurida* var. *gracilis* of Gray.  
Collection of H. D. House, “No. 26675, damp roadside, Wolf Pond, July 11, 1939”.

Clearing near the field laboratory, west shore of Catlin Lake; in dry sandy soil.

*Carex polygama* of W. & E. and of Gray.  
Shore of Deer Pond; in wet sandy soil.

8. **Carex canescens** L. *Silverly sedge.*  
Roadsides and lake shores; in moist sandy soil. Collections of H. F. Heady (Nos. 286 and 273) were identified by Earl L. Core as var. *subloliacea* Laestad., based on the distance between the spikes. Mackenzie considers this a normal variation not worthy of varietal rank.

Abandoned cleared land; in well-drained sandy to wet springy soil.
   Carex kneiskernii of House.
   Collection of H. D. House, "No. 26645, dry slopes in cemetery, west of Newcomb, July 5, 1939".

[Carex cephalantha (Bailey) Bicknell. Little prickly sedge.
   Carex leersii, in part, of B. & B.
   Carex muricata, in part, of W. & E.
   Carex stellulata var. cephalantha of Gray.
   Collection of H. D. House, "No. 26552, along Hudson River below bridge at Newcomb, June 22, 1939".]

[Carex chlorophila Mackenzie.
   Carex irregularis of House.
   Carex oederi, in part, of B. & B.
   Carex oederi var. pumila, in part of W. & E.
   Collection of H. D. House, "No. 7394, shore of Lake Harris, July 15-30, 1920".]

   Collections of E. L. Stone, "Nos. 39 and 76, from the top of the cliff on the southwest side of Panther Mountain; in dry organic soil, June 1938".

[Carex comosa Boott. Bristly sedge.
   Collection of H. D. House, "No. 7412, swamp near Newcomb, July 15-30, 1920".]

11. Carex convoluta Mackenzie.
   Carex rosca of Gray and of B. & B.
   Top of Wolf Mountain; in well-drained sandy soil.

   Collection of H. D. House, "No. 26678, moist soil, Wolf Pond, July 11, 1939".

   Carex flava var. rectirostra of Gray.
   Carex lepidocarpa of B. & B.
   Collection of H. D. House, "No. 26674, shore of Wolf Pond, July 11, 1939".

[Carex deflexa Hornem. Northern sedge.
   Collection of H. D. House, "No. 8772, Newcomb, June 5, 1922".]
[Carex deweyana Schw. Dewey’s sedge.

[Carex diandra Schrank. Lesser panicled sedge.
Collection of H. D. House, “No. 14814, near Newcomb, July 9, 1927.”]

[Carex disperma Dewey. Soft-leaved sedge.
Carex tenella of W. & E. and of Gray.

Shore of Deer Pond; in wet sandy or peaty soil.

15. Carex flava L. Yellow sedge.
Shore of Rich Lake; in well-drained sandy soil.

Carex debilis var. interjecta of Gray.
Carex debilis var. rudgei of W. & E. and of Gray.
Collection of E. L. Stone, “Nos. 70 and 15, truck trail; in moist rich organic soil. June, 1938”.

Swamp, north end of Catlin Lake; in wet mucky soil.

[Carex gracillima Schw. Graceful sedge.

Carex crinita var. gynandra of Gray.
Beaver dams, clearings, and roadsides; in mucky to wet sandy soil.

Carex stricta var. decora of Gray.
Collection of H. D. House, “No. 26640, shore of Rich Lake near the cemetery, July 5, 1939”.

Collection of H. D. House, “No. 9040, in old clearing among berry bushes, Newcomb, July 13, 1922.”]
20. **Carex interior** Bailey.

*Carex scirpoides* of Gray.

Collection of H. D. House, "No. 26673, marsh at south end of Wolf Pond, July 11, 1939".

21. **Carex intumescens** Rudge.

Roadsides, bottom lands, clearings and along trails; in moist rich sandy soil.

22. **Carex lacustris** Willd.

*Carex riparia* of Gray.

Collection of E. L. Stone, "No. 165, Fishing Brook Marsh, in fibrous muck, July 14, 1938".

23. **Carex lasiocarpa** Ehrh.

*Carex ftiliformis* of Gray.

Lake shores, marshes, and open areas in bogs; in very wet mucky soil that is covered with water for part of the season.

24. **Carex laxiflora** Lam.

*Carex anceps* of W. & E. and of House.

Collection of H. D. House, "No. 26677, marsh on Wolf Pond, July 11, 1939".

25. **Carex lenticularis** Michx.

Shore of Catlin Lake; in wet sandy soil.

26. **Carex leptalea** Wahl.

*Bristle-stalked sedge.*

Collection of H. D. House, "No. 7436, bog near Newcomb, July 15-30, 1920".

27. **Carex leptonervia** Fern.

*Northern woodland sedge.*

*Carex anceps*, in part, of B. & B.

Collection of H. D. House, "No. 7436, bog near Newcomb, July 15-30, 1920".

[**Carex limosa** L.]

*Mud sedge.*

Collection of H. D. House, "No. 7436, bog near Newcomb, July 15-30, 1920".]

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**Porcupine sedge.**

Collection of H. D. House, "No. 7420, swamps, near Newcomb, July 15-30, 1920".]

**Inland sedge.**

Collection of H. D. House, "No. 7420, swamps, near Newcomb, July 15-30, 1920".]

**Bladder sedge.**

Roadsides, bottom lands, clearings and along trails; in moist rich sandy soil.

**Lake-bank sedge.**

*Carex riparia* var. *lacustris* of W. & E.

Collection of E. L. Stone, "No. 165, Fishing Brook Marsh, in fibrous muck, July 14, 1938".

**Slender sedge.**

*Carex filiformis* of Gray.

Lake shores, marshes, and open areas in bogs; in very wet mucky soil that is covered with water for part of the season.

**Loose-flowered sedge.**

*Carex anceps* of W. & E. and of House.

Collection of H. D. House, "No. 26677, marsh on Wolf Pond, July 11, 1939".

**Lenticular sedge.**

Wooded slopes and lowlands; in moist rich sandy soil.
Wildlife of the Huntington Wildlife Station

[Carex lurida Wahl. Sallow sedge.


Carex abacta of House and of B. & B.
Bogs and margins of lakes; in wet mucky soil.

Collection of H. D. House, “No. 26521, dry banks near Newcomb, June 22, 1939.”]

[Carex oligosperma Michx. Few-seeded sedge.
Collection of H. D. House, “No. 7434, marsh on shore of Lake Harris, July 15-30, 1920.”]

29. Carex pallescens L. Pale sedge.
Clearings near the state highway, in well-drained sandy soil.

Bog south of Wolf Pond; in wet sphagnum.

[Carex paupercula Michx. Bog sedge.

Carex albicans of Gray and of B. & B.
Collection of H. D. House, “No. 8059, woods near Newcomb, June 11, 1921.”]

[Carex pedunculata Muhl. Long-stalked sedge.
Collection of H. D. House, “No. 8790, dry woods, Newcomb, June 3, 1922.”]

Low woodlands; in moist rich sandy soil; scarce.

[Carex projecta Mackenzie. Necklace sedge.
Carex tribuloides var. reducta of Gray.
Collection of H. D. House, “No. 14809, woods near Newcomb, July 9, 1927.”]

[Carex pseudo-cyperus L. Cyperus-like sedge.
Collection of H. D. House, “No. 11011, marsh near Newcomb, June 11, 1925.”]
[Carex retrorsa Schw.  
Retrorse sedge.
Collection of H. D. House, “No. 15333, wet soil, Newcomb, August 11, 1927”.]

32. Carex rostrata Stokes.  
Beaked sedge.
Bogs and shallow water of lakes and ponds; in wet mucky soil.

[Carex rugosperma Mackenzie.  
Carex umbellata of W. & E., of Gray, and of House.
Collection of H. D. House, “No. 25599, sandy field at junction of Tahawas Road and state highway, June 9, 1938”.]

33. Carex scabrata Schw.  
Rough sedge.
Lake shores, low depressions in woodlands, and bogs; in wet mucky soil.

34. Carex scoparia Schk.  
Pointed broom sedge.
Lake shores and roadsides; in well-drained sandy soil.

35. Carex stipata Muhl.  
Awl-fruited sedge.
Lake shores and marshes; in wet sandy or mucky soil.

36. Carex stricta Lam.  
Tussock sedge.
Carex stricta, in part, of B. & B.  
Carex stricta var. angustata of Gray.
Little Deer Pond; in wet mucky soil.

37. Carex strictior Dewey.  
Northern tussock sedge.
Carex stricta, in part, of B. & B.  
Carex stricta var. curtissina of W. & E., and of Gray.  
Includes Carex stricta of Gray.
Collections of H. D. House, “No. 7948, shore of Rich Lake, June 6, 1921”.

38. Carex substricta (Kükenth.) Mackenzie.  
Northern water sedge.
Carex aquatilis of W. & E., of Gray, and of B. & B.
Collection of E. L. Stone, “No. 12, water level at the boat house on Deer Pond, in fibrous muck, June 8, 1938”.

[Carex tenera Dewey.  
Slender straw sedge.  
Carex straminea, in part, of House and of B. & B.  
Carex straminea var. echinodes of Gray.  
Carex tenera var. echinodes of W. & E.
Collection of H. D. House, “No. 14770, field near Tahawas. July 9, 1927”.]
[Carex tenuiflora Wahl.  
Sparse-flowered sedge.  
Collection of H. D. House, "No. 7431, bog near Newcomb, July 15-30, 1920".]

Three-fruited sedge.  
Beaver dam northeast of Deer Pond; in wet organic soil.

40. Carex vesicaria L.  
Inflated sedge.  
Includes Carex monile of B. & B.  
Includes Carex vesicaria of B. & B. and of Gray.  
Includes Carex vesicaria var. distenta of Gray.  
Includes Carex vesicaria var. jejuna of Gray.  
Includes Carex vesicaria var. monile of Gray.  
Carex vesicaria var. monile of W. & E.  
Wooded lowlands, creek banks, and lake shores; in wet mucky soil.

41. Carex vulpinoidea Michx.  
Fox sedge.  
Clearings, in well-drained sandy soil.

Cyperus (Tourn.) L.  
Toothed cyperus.

Shore of Catlin Lake; in wet sand.

[Cyperus rivularis Kunth.  
Shining cyperus.  
Collection of H. D. House, "No. 26927, wet soil along banks near Newcomb, August 14, 1939".]

Dulichium Pers.  
Dulichium.

1. Dulichium arundinaceum (L.) Britton.  
Shores of lakes and ponds; in wet sand.

Eleocharis R. Br.*  
Spike rush.

1. Eleocharis acicularis (L.) R. & S.  
Lake shores; in wet sand; occasional.

2. Eleocharis elliptica Kunth.  
Slender spike rush.  
Eleocharis capitata, in part, of W. & E. and of House.  
Eleocharis tensis, in part, of Gray and of B. & B.  
Along the state highway; in moist sandy soil.

* The nomenclature of Eleocharis is that of Svenson, '39.
   Collection of H. D. House, "No. 11386, muddy shore of Lodo Pond, September 9, 1925".

   Shore of Rich Lake; in wet sand.

   **Eleocharis ovata** (Roth) R. & S. Ovoid spike rush.
   Collection of H. D. House, "No. 11335, wet soil, Newcomb, September 5, 1925".

5. **Eleocharis palustris** (L.) R. & S. Creeping spike rush.
   Collection of H. D. House, "No. 26903, marshy shore, south end of Wolf Pond, August 14, 1939".

   **Eleocharis robbinsii** Oakes. Robin's spike rush.
   Collection of H. D. House, "No. 15381, marsh on Lake Harris, August 13, 1927".

   Lake shores; in wet sand.

**Eriophorum L.**

**Eriophorum spissum** Fern. (see Rhodora 27; 208. 1925). Sheathed cotton grass.

**Eriophorum callitrix** of W. & E., of Gray, of House, and of B. & B.
   Collection of H. D. House, "No. 8016, marsh near Newcomb, June 8, 1921".

   **Eriophorum tenellum** Nutt. Rough cotton grass.
   Collection of H. D. House, "No. 7354, bog near Newcomb, July 15–30, 1920".

1. **Eriophorum virginicum** L. Cotton grass.
   Lodo Pond; in wet sphagnum.

2. **Eriophorum viridi-carinatum** (Engelm.) Fern. Thin-leaved cotton grass.
   Meadows, beaver dams, bogs, and lake shores; in wet mucky soil; scarce.
Fimbristylis Vahl.

1 Fimbristylis autumnalis (L.) R. & S. (see Rhodora 20: 24. 1918).

Fimbristylis frankii of Gray.
Fimbristylis geminata of B. & B.
Trichelostylis autumnalis of House.

Collection of H. D. House, "No. 11342, wet soil, outlet of Rich Lake, September 6, 1925".

[Mariscus (Hal.) Zinn.]

[Mariscus mariscoides (Muhl.) Kuntze.  Water bog rush.
Cladium mariscoides of Gray.

Collection of H. D. House, "No. 7346, wet sandy shores of Lake Harris, July 15-30, 1920".]

Rynchospora Vahl.

Lodo Pond; in wet mucky soil.

2. Rynchospora capitellata (Michx.) Vahl.  Clustered beak rush.

Rynchospora glomerata of Gray and of B. & B.
Shore of Deer Pond; in wet sand.

Lodo Pond; in sphagnum and wet mucky areas.

Scirpus (Tourn.) L.

Collection of E. L. Stone, "No. 91, Big Sucker Brook inlet glade, in moist sand, June 20, 1938".

2. Scirpus atrovirens Muhl.  Dark green bulrush.
Clearings, roadsides, and stream banks; in wet sandy or mucky soil.

[Scirpus atrovirens Muhl. var. georgianus (Harper) Fern.
Scirpus georgianus of Gray.

Collection of H. D. House, "No. 7360, marsh, Newcomb, July 15-30, 1920".  Differs from Scirpus atrovirens by having leaf blades less than 1 cm. wide, sheaths not nodulose, and bristles shorter than the achene.]
*Scirpus cyperinus*, in part, of B. & B. 
Marshes and swamps; in wet mucky soil.

*Eriophorum alpinum* of House and of B. & B. 
Bog south of Wolf Pond; in sphagnum and wet mucky areas.

[Scirpus peckii Britton. Peck’s bulrush. 
Collection of H. D. House, “No. 18528, edge of swamp east of Newcomb, July 28, 1931”.

5. Scirpus pedicellatus Fern. Wool grass. 
*Scirpus cyperinus*, in part, of B. & B. 
Clearings, swamps, and marshes; in wet mucky or sandy soil.

[Scirpus rubrotinctus Fern. Bulrush. 
*Scirpus microcarpus* of House and of B. & B. 

Shallow water of Deer Pond; in muck.

[Scirpus torreyi Olney. Torrey’s rush. 
Collection of H. D. House, “No. 7357, shallow water, Lake Harris, July 15-30, 1920”.

[Scirpus validus Vahl. Bulrush. 
Collection of H. D. House, “No. 10568, shore of Lake Harris, August 17, 1924”.

10. SPATHIFLORAE

16. ARACEAE (Arum Family)

Acorus L. Sweet flag. 
Collection of E. L. Stone, “No. 120, moist springy organic soil near the ranger station, June 25, 1938”; rare.
Arisaema Mart.


Woodlands and wet lowlands; in rich sandy or mucky soil; common. Small sterile plants are common in moist humus under mixed conifer-hardwood stands.

[Arisaema triphyllum (L.) Schott var. stewardsonii (Britton) G. T. Stevens. (See Rhodora 23: 136, 1921.) stewardson’s jack-in-the-pulpit.

Arisaema stewardsonii of B. & B. and of House.

Collection of H. D. House, "No. 8812, marsh near Newcomb, June 8, 1922". This is a geographic variety whose range overlaps that of the typical species on the Forest. Differs from the species by having leaves with green undersurface.]

Calla L.


Boggy places and soft mucky soil; in shallow water around lakes and slowly moving streams; scarce.

II. FARINOSAE

17. XYRIDACEAE (Yellow-eyed Grass Family)

Xyris (Gronov.) L.

1. Xyris montana Ries. Northern yellow-eyed grass.

Collection of H. D. House, "No. 26901, shore of Wolf Pond, August 14, 1939"; rare.

18. ERIOCAULACEAE (Pipewort Family)

Eriocaulon (Gronov.) L.

1. Eriocaulon septangulare With. Seven-angled pipewort.

Eriocaulon articulatum of Gray.

Wet mucky places in bogs, wet sandy lake shores, or on mucky or sandy bottoms; in water to a depth of 1-2 m. Scapes 2-20 cm. tall or as deep as the water when submersed.
19. PONTEDERIACEAE (Pickerel-weed Family)

Pontederia L.

1. Pontederia cordata L. Pickerel-weed.
   Emergent-leaved aquatic; in mucky soil along lake and stream margins; rare.

12. LILIIFLORAE

20. JUNCACEAE (Rush Family)

Juncus (Tourn.) L.

   Lake shores, marshes, and bog margins; in wet mucky or sandy soil; occasional.

[ Juncus bufonius L. Toad rush.
   Collection of H. D. House, "No. 26928, dry roadside near Newcomb, August 14, 1939". ]

   Collection of H. D. House, "No. 26948, shore of Catlin Lake, August 23, 1939".

   Open springy places in clearings; in sandy soil; scarce.

   Juncus effusus, in part, of Gray and of B. & B.
   Open meadows, creek banks, and borders of marshes; in very wet sandy or mucky soil; occasional.

5. Juncus filiformis L. Thread rush.
   Margins of lakes and along streams; in wet sandy soil; occasional.

   Collection of H. D. House, "No. 18704, sandy beach, east end of Rich Lake, August 6, 1931".

[ Juncus nodosus L. Knotted rush.
   Collection of H. D. House, "No. 15361, shore of Lake Harris, August 12, 1927". ]
7. Juncus pelocarpus Mey.  
Brown-fruited rush.  
Lake shores and along creeks, often in shallow water; in wet sand; scarce.

Path rush.  
Collection of E. L. Stone, "No. 65, June 16, 1938, and No. 226, July 29, 1938; roadsides; in well-drained sandy soil; scarce".

Luzula DC.

[Luzula saltuensis Fern.  
Hairy wood rush.  
Juncoideae carolinëæ of House and of B. & B.  
Collection of H. D. House, "No. 8817, edge of woods near Newcomb, June 8, 1922".]

Luzula DC.

1. Luzula multiflora (Ehrh.) Lejeune. (See Rhodora 40: 84. 1938.)  
Common wood rush.  
Juncoideae campestræ, in part, of B. & B.  
Juncoideae intermedium of House.  
Luzula campéstris var. multiflora of W. & E. and of Gray.  
Dry roadsides and clearings; in well-drained sandy soil; occasional.

21. LILIACEAE (Lily Family)

Asparagus (Tourn.) L.

1. Asparagus officinalis L.  
Garden asparagus.  
Open clearings, waste places, and old garden sites; in dry sandy soil; rare. Escaped from cultivation.

Clintonia Raf.

Moderately closed woodlands; in mossy or humus layer on moist sandy soil; occasional.

Erythronium L.

1. Erythronium americanum Ker.  Yellow adder's tongue.  
Open to moderately shaded areas under mixed conifer-hardwoods; in moist well-drained sandy soils; common, especially the small leaved sterile plants.

Hemerocallis L.

1. Hemerocallis flava L.  Yellow day lily.  
Open dry clearings; in sandy soil; scarce. Persisting after cultivation. Distinguished from Hemerocallis fulva by having yellow flowers with perianth lobes essentially parallel-veined.
2. **Hemerocallis fulva** L.  
Day lily.  
Clearings, roadsides, and waste places; in well-drained sandy soil; occasional along the state highway. Escaped from cultivation. Flowers orange with perianth lobes essentially netted-veined.

**Maianthemum** Wiggers

1. **Maianthemum canadense** Desf.  
**FALSE LILY-OF-THE-VALLEY.**  
**TWO-LEAVED SOLOMON’S SEAL.**  
*Unifolium canadense* of House and of B. & B.  
Shaded woodlands and edges of clearings; in moist to dry sandy soil with a high organic content; very common.

**Medeola** (Gronov.) L.

1. **Medeola virginiana** L.  
**INDIAN CUCUMBER-ROOT.**  
Open to shaded woodlands; in moist humus layer on sandy soil; common.

**[Polygonatum (Tourn.) Hill]**

**[Polygonatum pubescens** (Willd.) Pursh.  
**SMALL SOLOMON’S SEAL.**  
*Polygonatum biflorum* of Gray and of B. & B.  
Collection of H. D. House, "No. 8799, woods, Newcomb, June 3, 1922".]

**Smilacina** Desf.

1. **Smilacina racemosa** (L.) Desf.  
**FALSE SOLOMON’S SEAL. FALSE SPIKENARD.**  
*Vigniera racemosa* of House and of B. & B.  
Open to shaded roadsides, banks, and rock slides; in humus on sandy soil; scarce.

**[Smilacina stellata** (L.) Desf.  
**FALSE SOLOMON’S SEAL.**  
*Vigniera stellata* of House and of B. & B.  
Collection of H. D. House, "No. 9397, shore of Lake Harris, June 28, 1923".]

**[Smilacina trifolia** (L.) Desf.  
**THREE-LEAVED SOLOMON’S SEAL.**  
*Vigniera trifolia* of House and of B. & B.  
Collections of H. D. House, "No. 8033, June 9, 1922 and No. 7444, July 15–30, 1920, marshes and spruce woods, Newcomb".]

For **Lilium tigrinum** Ker. see Addenda p. 369.
**Smilax** (Tourn.) L.

1. *Smilax herbacea* L.  

_Carrion flower._  
Collection of E. L. Stone, “No. 96, trailside near ranger station, June 21, 1938; rare”.

**Streptopus** Michx.

1. *Streptopus amplexifolius* (L.) DC. _Clasping-leaved twisted stalk._  
Mountain tops, cold mossy woods, and swamps; in organic layer on sandy soil; rare.

2. *Streptopus roseus* Michx. _Sessile-leaved twisted stalk._  
Cool shaded woodlands, mountain tops, and roadsides; in humus layer on sandy or gravelly soil; common.

**Trillium** L.

1. *Trillium erectum* L. _Red trillium. Birthroot._  
Closed woodlands and banks; in humus on moist sandy well-drained soil; scattered small single plants, many of them sterile. Leaves sessile.

Usually in closed hardwood types; in moist humus layer on sandy soil; scattered small single plants, many of them sterile. Leaves distinctly short-petioled.

**Tulipa** (Tourn.) L.

1. *Tulipa* sp. (probably nearest to *Tulipa gesneriana* L.). _Cultivated. Tulip._  
Cemetery east of ranger station; in dry sandy soil. Not spreading.

**Uvularia** L.

1. *Uvularia sessilifolia* L. _Sessile-leaved bellwort._  
_Oakesia sessilifolia_ of Gray.  
_Oakesiella sessilifolia_ of House.  
Shaded woods and edges of clearings; in dry to moist humus layer on sandy soil; common.

**Veratrum** (Tourn.) L.

1. *Veratrum viride* Ait. _American white, false, or green hellebore. Indian poke._  
Shaded areas along creeks and wet lowlands; in rich sandy or alluvial soil; occasional.
22. AMARYLLIDACEAE (Narcissus Family)

Narcissus (Tourn.) L.


2. Narcissus pseudo-narcissus L. Cultivated. Daffodil. Cemetery east of ranger station; in dry sandy soil. Persistent, but not spreading. Differs from Narcissus incomparabilis by having a yellow crown nearly as long as the perianth.

23. IRIDACEAE (Iris Family)

Iris (Tourn.) L.

1. Iris versicolor L. Blue flag. Stream banks, edges of swamps, near springs, and clearings; in wet sandy soil which has a high organic content; common.

Sisyrinchium L.


13. MICROSPERMAE

24. ORCHIDACEAE (Orchid Family)

Arethusa (Gronov.) L.


Calopogon R. Br.


Corallorrhiza (Haller) Chat.

1. Corallorrhiza maculata Raf. Large coralroot. Dry woodlands, usually where beech is present, and moist stream banks; in humus layer on sandy soil or wet peaty soil; occasional.
2. **Corallorrhiza trifida** Chat.  
   **Small coralroot.**
   *Corallorrhiza corallorrhiza* of House and of B. & B.

Dry woodlands; in humus layer on sandy soil; scarce.

**Cypripedium L.**

1. **Cypripedium acaule** Ait. **Stemless lady's slipper. Moccasin flower.**
   *Fissipes acaulis* of B. & B.

Closed woodlands; in moist humus layer on sandy soil; scarce, plants occurring singly.

**[Cypripedium reginae** Walt. **Showy lady's slipper.**

*Cypripedium hirsutum* of Gray.

Collection of H. D. House, "No. 26704, evergreen swamp east of Newcomb, July 11, 1939".]

**Epipactis** (Haller) Boehm.

**[Epipactis repens** (L.) Crantz var. **ophioides** (Fern.) A. A. Eaton. **Rattlesnake plantain.**

*Peranthera ophioides* of B. & B.
*Peranthera secundum* of House.

Collection of H. D. House, "No. 7310, mossy woods, Newcomb, July 15-30, 1920".]

1. **Epipactis tesselata** (Lodd.) A. A. Eaton. **Rattlesnake plantain.**

*Peranthera tesselata* of House and of B. & B.

Under mixed conifer-hardwoods; in moist humus layer on sandy soil; scarce.

**Habenaria Willd.**

1. **Habenaria blephariglottis** (Willd.) Torr. **White fringed orchis.**

*Blephariglottis blephariglottis* of House and of B. & B.

Open mucky areas in bogs; rare.

2. **Habenaria bracteata** (Willd.) R. Br. **Long-bracted orchis.**

*Coeloglossum bracteatum* of House and of B. & B.

Partially closed woodlands; in warm moist humus layer on sandy soil; rare.

*Gymnadeniopsis clavellata* of House and of B. & B.
Open mucky areas in sphagnum bogs; scarce.

4. Habenaria dilatata (Pursh) Gray. Tall white bog orchis.

*Limnorchis dilatata* of House and of B. & B.
Margins of sphagnum bogs; occasional. Flowers are very fragrant.

[Habenaria fimbriata (Ait.) R. Br. Purple fringed orchis.

*Blephariglottis grandiflora* of House and of B. & B.
Collection of H. D. House, "No. 9126, old beaver meadow near Newcomb, July 18, 1922".]

[Habenaria flava (L.) Gray var. virescens (Muhl.) Fern. Small pale-green orchis.

*Habenaria flava*, in part, of Gray.
*Perularia flava*, in part, of House and of B. & B.
Collection of H. D. House, "No. 7305, swamp near Newcomb, July 15-30, 1920".]

5. Habenaria hyperborea (L.) R. Br. Tall leafy green orchis.

*Limnorchis hyperborea* of House and of B. & B.
Woodlands in moist, rich sandy soil along streams and springs; scarce.

[Habenaria obtusata (Pursh) Richards. Small northern bog orchis.

*Lysiella obtusata* of House and of B. & B.
Collection of H. D. House, "No. 26705, swamp east of Newcomb, July 11, 1939".]


*Lysias orbiculata* of House and of B. & B.
Collection of H. D. House, "No. 7990, rich woods, Newcomb, June 7, 1921".]

6. Habenaria psycodes (L.) Sw. Purple fringed orchis.

*Blephariglottis psycodes* of House and of B. & B.
Margins of bogs, roadsides, and open meadows; in wet mucky or sandy soil; occasional, especially along the state highway.
[Liparis Richard]

[Liparis loeselii (L.) Richard.  
Twayblade.  
Collection of H. D. House, "No. 8421, marsh near Newcomb, August 1, 1921".]

[Listera R. Br.]

[Listera convallarioides (Sw.) Torr.  Broad-lipped twayblade.  
Orphrys convallarioides of House and of B. & B.  
Collection of H. D. House, "No. 18520, cedar swamp near Newcomb, July 28, 1931".]

[Listera cordata (L.) R. Br.  Heart-leaved twayblade.  
Orphrys cordata of House and of B. & B.  
Collection of H. D. House, "No. 7308, mossy, cedar-spruce swamp, Newcomb, July 15-30, 1920".]

[Microstylis (Nutt.) Eaton]

[Microstylis monophyllos (L.) Lindl.  White adder’s mouth.  
Malaxis monophylla of House and of B. & B.  
Collection of H. D. House, "No. 11069, mossy swamp, Newcomb, July 7, 1924".]

[Microstylis unifolia (Michx.) BSP.  Green adder’s mouth.  
Malaxis unifolia of House and of B. & B.  
Collection of H. D. House, "No. 7301, mossy woods, Newcomb, July 15-30, 1920".]

Pogonia Juss.

Sphagnum or sedge mat; in open bogs; occasional.

Spiranthes Richard

Ibidium cernuum of House and of B. & B.  
Margins of marshes and swamps; in open mucky soil; scarce.

For Spiranthes romanzoffiana Cham. see Addenda p. 368.
Class II. DICOTYLEDONEAE

14. SALICALES

25. SALICACEAE (Willow Family)

**Populus** (Tourn.) L.

1. *Populus grandidentata* Michx.  **LARGE-TOOTHED ASPEN.**
   Clearings, lake shores, and burns; in well-drained sandy soil; occasional.

2. *Populus tacamahaca* Mill.  **BALSAM POPLAR.**  **TACAMAHAC.**
   *Populus balsamifera* of Gray, of House, and of B. & B.
   Clearings and low depressions along Rich Lake; in moist sandy soil; scarce.

3. *Populus tremuloides* Michx.  **TREMBLING OR QUAKING ASPEN.**
   Clearings, burns, lake shores, and hillsides; in moist sandy or stony soil; common.

**Salix** (Tourn.) L.

1. *Salix bebbiana* Sarg.  **BEBB'S WILLOW.**
   *Salix rostrata* of Gray.
   Clearings, burns, beaver cuttings, lake shores, and recently disturbed areas; in dry sandy or stony soil; common.

2. *Salix discolor* Muhl.  **PUSSY WILLOW.**  **GLAUCOUS WILLOW.**
   Roadsides, clearings, stream banks, and lake shores; in moist sandy or gravelly soil; common.

   Roadside at Fishing Brook bridge; in well-drained sandy soil; rare. Differs from the species by having narrower leaves.

   *Salix humilis* Marsh.  **PRAIRIE WILLOW.**
   Collection of H. D. House, “No. 14858, sandy bank in open woods, Newcomb, July 11, 1927.”

3. *Salix lucida* Muhl.  **SHINING WILLOW.**
   Swamps, stream banks, and wet roadsides; in sandy or mucky soil; scarce.

   *Salix lucida* Muhl. var. *angustifolia* Anders.
Salix lucida Mühl. var. intonsa Fern.
Collection of H. D. House, "No. 14811, marsh near Newcomb, July 9, 1927". Leaves elliptic-lanceolate, permanently pubescent with sordid or rufous hairs.

Salix pedicellaris Pursh. Bog willow.
Collection of H. D. House, "No. 14855, Pruyn marsh, near Newcomb, July 10, 1927".

Swamps, marshes, bogs, and hillsides; in wet or dry sandy or mucky soil; occasional.

Salix pyrifolia Anders. Balsam willow.
Salix balsamifera of Gray.
Collection of H. D. House, "No. 14838, shore of Lake Harris, July 10, 1927".

Swamps and marshes; in wet mucky soil; occasional.

Salix cordata × sericea
Collection of H. D. House, "No. 14825, shore of Rich Lake, July 10, 1927". Salix cordata has not been collected from Newcomb or vicinity, although it occurs along the Hudson River a few miles below the village.

Marsh, west end of Rich Lake; in wet mucky soil; scarce.

15. MYRICALES

26. MYRICACEAE (Sweet Gale Family)

Myrica L.


Myrica gale, in part, of Gray and of B. & B.
Collection of H. D. House, "No. 26682, marsh, south end of Wolf Pond, July 11, 1939"; rare. Leaves more or less pubescent, at least on the veins beneath.
1a. *Myrica gale* L. var. *subglabra* (Chev.) Fern. (See Rhodora 16: 167. 1914.)

*Myrica gale*, in part, of Gray and of B. & B.

Stream banks, and margins of lakes, bogs, and marshes; in very wet sandy and mucky soil; common. Leaves glabrous or glabrate throughout.

**[JUGLANDALES]**

**[JUGLANDACEAE (Walnut Family)]**

**[Juglans L.]**

**[Juglans cinerea L.]**

Butternut.

Collection of H. D. House, "No. 14796, Hudson River east of Newcomb, July 9, 1927"; rare.

16. **FAGALES**

27. **BETULACEAE (Birch Family)**

**Alnus** (Tourn.) Hill

1. *Alnus incana* (L.) Moench. **Speckled alder.**

Stream banks, springy areas, and margins of lakes, marshes, and bogs; in wet mucky soil; common.

**Betula** (Tourn.) L.

1. *Betula lutea* Michx. f. **Yellow birch.**

Climax forest; a dominant species of slopes and ridges; in moist sandy soil; very common.

2. *Betula papyrifera* Marsh. **Paper, canoe, or white birch.**

*Betula alba* var. *papyrifera* of Gray.

Lake shores, and old fields; in well-drained sandy soil; common.

[Bytea* papyrifera* Marsh var. *minor* (Tuckerm.) Wats. & Coult.

*Betula alba* var. *minor* of Gray.

*Betula papyrifera*, in part, of B. & B.

A dwarf form of *Betula papyrifera* from the exposed summit of Santanoni Peak.]

**Corylus** (Tourn.) L.

1. *Corylus cornuta* Marsh. **Beaked hazelnut.**

*Corylus rostrata* of Gray and of B. & B.

Thickets in thin woods and on ridges; in moist well-drained sandy soil; occasional.
**Ostrya** (Micheli) Scop.

1. **Ostrya virginiana** (Mill.) K. Koch. **Hop hornbeam. Ironwood.**
   Thick woods; in moist rocky soil; scarce.

28. **FAGACEAE** (Beech Family)

   **Fagus** (Tourn.) L.

   1. **Fagus grandifolia** Ehrh. **Beech.**
      Climax forest; dominant tree of hardwood forest; in moist well-drained sandy soil; very common.

   **Quercus** (Tourn.) L.

   1. **Quercus rubra** L. **Red oak.**
      *Quercus borealis* var. *maxima* of W. & E.
      Few trees along the southwest ridge of Goodnow Mountain; on dry exposed rocky ledges; rare. According to Svenson (see Rhodora 41: 521–524. 1939), Limnaeus did not have specimens of the northern red oak, but his citations (1753) included references to this species among others. DuRoi, in 1772, chose a type, applying the name to a collection of the northern red oak.

17. **URTICALES**

29. **ULMACEAE** (Elm Family)

   **Humulus** L.

   1. **Humulus lupulus** L. **Cultivated. Common hop.**
      A few vines persisting for many years near cabin sites which have been abandoned; rare; not spreading.

   **Ulmus** (Tourn.) L.

   1. **Ulmus americana** L. **American or white elm.**
      Clearings, old fields, and ridges; in rich moist sandy soil; scarce.

30. **URTICACEAE** (Nettle Family)

   **Laportea** Gaud.

   1. **Laportea canadensis** (L.) Gaud. **Wood nettle.**
      *Urticastrum divaricatum* of House and of B. & B.
      Low woods along south side of Rich Lake; in rich moist sandy soil; rare.
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[**Urtica** (Tourn.) L.]

[**Urtica gracilis** Ait.]

Common nettle.
Collection of H. D. House, “No. 15336, wet thickets, Newcomb, August 11, 1927.”

[SANTALALES]

[LORANTHACEAE (Mistletoe Family)]

[**Arceuthobium** Bieb.]

[**Arceuthobium pusillum** Peck.]

Dwarf mistletoe.
Razoumofskyia pusilla of House and of B. & B.

18. POLYGONALES

31. POLYGONACEAE (Buckwheat Family)

[**Fagopyrum** (Tourn.) Gaertn.]

[**Fagopyrum esculentum** Moench.]

Buckwheat.

*Fagopyrum fagopyrum* of House and of B. & B.
Collection of H. D. House, “No. 11423, weed in grain field, Newcomb, September 14, 1925.”

**Polygonum** (Tourn.) L.

1. *Polygonum amphibia* L.
Water smartweed.

*Persicaria amphibia* of B. & B.
*Polygonum fluitans* of House.
Collection of H. D. House, “No. 15384, shore of Rich Lake, August 12, 1927”.

2. *Polygonum aviculare* L.
Knotweed

Roadsides and clearings; in recently disturbed dry sandy soil; occasional.

Fringed black bindweed.

*Tiniaria cilinodis* of B. & B.

Trails, mountain tops, clearings, and roadsides; in dry well-drained sandy soil or moist humus on rocks; occasional. Differs from *Polygonum convolvulus* by having leaf sheaths fringed at the base with reflexed bristles.
4. Polygonum convolvulus L.  
   **Black bindweed.**
   *Tinariaria convolvulus* of B. & B.
   Roadsides and clearings; in well-drained sandy soil; occasional.
   Leaf sheaths naked at the base.

5. Polygonum hydropiper L.  
   **Smartweed. Water pepper.**
   *Persicaria hydropiper* of B. & B.
   Stream bottoms and low depressions; in wet mucky or sandy soil; scarce.

6. Polygonum persicaria L.  
   **Lady’s thumb. Heartweed.**
   *Persicaria persicaria* of B. & B.
   Roadsides, clearings, and recently disturbed areas; in wet or dry sandy soil; common.

7. Polygonum sagittatum L.  
   **Arrow-leaved tearthumb.**
   *Tracaulon sagittatum* of B. & B.
   Lake shores and marshes; in wet sandy or mucky soil; scarce.

   **Rheum L.**

1. Rheum rhaponticum L.  
   **Cultivated. Rhubarb.**
   Few plants persisting after cultivation in clearings near the state highway; rare.

   **Rumex L.**

1. Rumex acetosella L.  
   **Sheep, wood, or field sorrel.**
   Clearings, burns, roadsides, and old camps; in dry sandy soil; common.

2. Rumex elongatus Guss.  
   **Curled or yellow dock.**
   Grassy clearings, roadsides and recently disturbed areas; in dry sandy soil; occasional.

3. Rumex obtusifolius L.  
   **Bitter or broad-leaved dock.**
   Roadsides, creek banks, and low depressions; in wet sandy soil; scarce.

19. **CENTROSPERMAE**

32. **CHENOPODIACEAE** (Goosefoot Family)

   **Chenopodium (Tourn.) L.**

1. Chenopodium album L.  
   **Lamb’s quarters. Pigweed.**
   Roadsides and clearings; in recently disturbed dry sandy soil; scarce.
33. AMARANTHACEAE (Amaranth Family)

Amaranthus (Tourn.) L.

1. Amaranthus retroflexus L.  Green amaranth. Pigweed. Roadsides and clearings; in recently disturbed dry sandy soil; scarce.

34. PORTULACACEAE (Purslane Family)

Claytonia (Gronov.) L.

1. Claytonia caroliniana Michx.  Spring beauty. Roadsides, wooded slopes, and ridges; in moist humus or sandy soil; common.

Portulaca (Tourn.) L.

1. Portulaca grandiflora Hook.  Garden portulaca. Rock garden at the ranger station; in dry sandy soil; not spreading.

35. CARYOPHYLLACEAE (Pink Family)

[Agrostemma L.]

[Agrostemma githago L.]  Corn cockle.

Collection of H. D. House, "No. 11396. Newcomb, in cultivated field of oats, September 14, 1925".

Cerastium L.

1. Cerastium vulgatum L.  Mouse-ear chickweed. Roadsides, clearings, and disturbed areas; in well-drained sandy soil; scarce.

Dianthus L.

1. Dianthus barbatus L.  Sweet william. Planted in the cemetery and spreading along the creek and near-by road; in moist sandy soil.

2. Dianthus caryophyllus L.  Carnation. Planted in the cemetery; in dry sandy soil; not spreading.

Lychnis (Tourn.) L.

1. Lychnis alba Mill.  White campion. Roadsides and clearings near the state highway; in dry sandy soil; occasional.

2. Lychnis chalcedonica L.  Scarlet lychnis. Along the state highway; in dry sandy soil; rare.
Saponaria L.

   Vaccaria vaccaria of House and of B. & B.
   Planted in the yard at the Arbutus Camp; not spreading.

Silene L.

   Roadside near the ranger station; in dry sandy soil; rare.

Stellaria L.

   Alsine aquatica of B. & B.
   Clearings near the state highway; in dry sandy soil; scarce.
   [Stellaria borealis Bigel. Northern stitchwort.
   Alsine borealis of B. & B.
   Collection of H. D. House, "No. 14790, wet woods near Newcomb,
   July 9, 1927."

2. Stellaria graminea L. Lesser stitchwort.
   Alsine graminea of B. & B.
   Roadsides and clearings; in moist sandy soil; occasional.

   Alsine media of B. & B.
   Clearings, roadsides, and waste areas; in dry sandy soil; scarce.

20. Ranales

36. Nymphaeaceae (Water Lily Family)

Brasenia Schreb.

   Floating-leaved aquatic in 0.5-2 m. of water; in lakes and stagnant
   water; occasional.

Nymphaea L.

1. Nymphaea odorata Ait. White or sweet water lily.
   Castalia odorata of Gray, of House, and of B. & B.
   Floating-leaved aquatic in 0.3-3 m. of water; in lakes and bogs;
   occasional.

For Silene noctiflora L. see Addenda p. 368.
Nuphar Smith*

1. Nuphar advena (Solander) R. Br. var. variegatum Engelm.  
   **Yellow pond lily.** Spatter-dock.

   *Nymphaea advena*, in part, of B. & B.
   *Nymphaea advena var. variegata* of Gray and of House.
   *Nymphaezanthus variegatus* of W. & E.

   Floating-leaved aquatic in 1-2 m. of water; in lakes and bogs; common.

2. Nuphar microphyllum (Pers.) Fern. **Small yellow pond lily.**

   *Nymphaea microphylla* of Gray, of House, and of B. & B.
   *Nymphaezanthus microphyllus* of W. & E.

   Floating-leaved aquatic at the west end of Rich Lake; in 1-2 m. of slowly flowing water; rare.

[Nuphar rubrodiscum Morong. **Peck's yellow pond lily.**

   *Nymphaea rubrodisca* of Gray and of House.

   Collection of H. D. House, "No. 9668, Lake Harris, July 16, 1922".]

37. RANUNCULACEAE (Crowfoot Family)

Actaea L.

1. Actaea alba (L.) Mill. **White baneberry.** White cohoosh.

   Moist rich woods, especially near clearings and along roads at the south end of the Forest; in sandy soils; occasional. Rare in the forest except on the maple-ash-basswood ridges, where it occasionally occurs.


   Rocky banks, edges of woods near clearings, and along roads; in sandy soil; scarce. Usually in a drier habitat than *Actaea alba*.

   A form with white berries on slender pedicels has been collected by H. D. House, "No. 7184, open woods, Newcomb, July 15-30, 1920".

   [Anemone (Tourn.) L.]

   [Anemone virginiana L. **Tall anemone.** Thimble-weed.

   Collection of H. D. House, "No. 26516, sunny bank in light soil, 3 miles east of Newcomb, June 22, 1939".]

* The name Nuphar is included in the list of *nomina conservanda proposita* of the International Code.
Aquilegia (Tourn.) L.

1. *Aquilegia vulgaris* L.  
   **Garden columbine.**
   Moist, open, roadsides and clearings; in sandy soil along the state highway; occasional. Escaped from cultivation, and is rare near camps in the forest.

Caltha (Rupp.) L.

1. *Caltha palustris* L.  
   **Marsh marigold. Cowslip.**
   Open mucky area along creek east of the truck trail entrance; rare. Found only in this location.

Clematis L.

1. *Clematis virginiana* L.  
   **Virgin’s bower. White clematis. Woodbine.**
   Stream banks, lake shores, and lowlands; in rich wet sandy loam; occasional. Usually associated with alder.

Coptis Salisb.

1. *Coptis trifolia* (L.) Salisb.  
   **Goldthread.**
   Mossy woods associated with hemlock and balsam, slightly raised areas in and around swamps; in wet well-drained organic soil; common. Usually under a moderately closed canopy.

Delphinium (Tourn.) L.

1. *Delphinium elatum* L.  
   **Cultivated. Larkspur.**
   Cemetery east of the ranger station; in dry sandy soil. Persistent but not spreading.

Paeonia L.

1. *Paeonia albiflora* Pallas.  
   **Cultivated. Paeony.**
   Cemetery east of the ranger station; in dry sandy soil. Persistent but not spreading.

Ranunculus (Tourn.) L.

1. *Ranunculus abortivus* L.  
   **Small-flowered buttercup.**
   Roadsides, stream banks, and wet lowlands; in well-drained sandy soils; occasional. Scattered plants along creeks and trails on moist wooded slopes where it is seldom over a foot tall.
2. **Ranunculus acris** L.  
**Tall field buttercup.**  
Open grasslands, clearings, roadsides, and waste places; usually in moist sandy well-drained soils; very common.

[Ranunculus pensylvanicus L. f.  
**Bristly buttercup.**  
Collection of H. D. House, “No. 10562, open marshy soil, Newcomb, Aug. 17, 1924”.

3. **Ranunculus recurvatus** Poir.  
**Hooked buttercup.**  
Wet lowlands, creek banks, and springy areas in the hardwood forest; in sandy or mucky soil; common.

4. **Ranunculus repens** L.  
**Creeping buttercup.**  
Clearings, grasslands, and lake shores; in wet or dry sandy soils at the southern end of the Forest; scarce. Creeping habit.

5. **Ranunculus reptans** L.  
**Creeping spearwort.**  
*Ranunculus flammula* var. *filiformis* of Gray.  
Found once on the wet sandy shore of Rich Lake near the west end; rare. Small creeping plants rooting from all the nodes; leaves linear.

6. **Ranunculus septentrionalis** Poir.  
**Swamp buttercup.**  
Found once on the wet mucky creek bank near the junction of the truck trail and state highway; rare.

**Thalictrum** (Tourn.) L.

1. **Thalictrum polygamum** Muhl. var. *hebecarpum* Fern.  
**Tall meadow rue.**  
*Thalictrum canadense* var. *hebecarpum* of House.  
*Thalictrum polygamum* of B. & B.

Partially shaded areas along creeks and swamps; in wet sandy or mucky soil; common. Differs from the species by having pubescent achenes.

[BERBERIDACEAE (Barberry Family)]

[Caulophyllum Michx.]

[Caulophyllum thalictroides (L.) Michx.  
**Blue cohosh.**  
Collection of H. D. House, “No. 10755, woods near Newcomb, September 22, 1924”.]
21. RHOEADALES

38. PAPAVERACEAE (Poppy Family)

Corydalis (Dill.) Medic.

   Capnoides sempervirens of House and of B. & B.
   Open mountain tops and rock slides; in dry rocky soil; rare.

   **Dicentra** Bernh.

1. Dicentra canadensis (Goldie) Walp. Squirrel corn.
   Bidculla canadensis of B. & B.
   *Capnorchis canadensis* of House.
   Woodlands at lower elevations; in moist well-drained soil; rare.
   Stem from yellow pea-like corms.

   Bidculla cucullaria of B. & B.
   *Capnorchis cucullaria* of House.
   In situations similar to the preceding and usually associated with it; rare. Stems from a fleshy, loosely scaly bulb, fide W. & E.

   Cemetery; in dry sandy soil; persistent but not spreading.

39. CRUCIFERAE (Mustard Family)

[Arabis L.]

[Arabis glabra (L.) Bernh. Tower mustard.
   Collection of H. D. House, “No. 11010, roadside, Newcomb, June 11, 1925”.]

**Barbarea** R. Br.

   Campe verna of House.
   Clearings and roadsides; in recently disturbed well-drained sandy soil; rare.

   Barbarea barbara of B. & B.
   Campe barbara of House.
   Roadsides, clearings, and stream banks; in wet sandy or mucky soil; occasional.
Brassica (Tourn.) L.

   *Sinapis arvensis* of B. & B.
   Roadsides and clearings; in recently disturbed dry sandy soil; scarce.

   [Brassica rapa L. Wild turnip.
   *Brassica campestris*, in part, of B. & B.
   Collection of H. D. House, "No. 15337, roadside, Newcomb, August 11, 1927".]

Capsella Medic.

   *Bursa bursa-pastoris* of House and of B. & B.
   Dooryards, clearings, and roadsides; in well-drained sandy soil; rare.

Cardamine (Tourn.) L.

   Roadsides, clearings, lake shores, and springy areas in the woods; in wet sandy or mucky soil; common.

Dentaria (Tourn.) L.

   Low depressions in woodlands; in wet sandy and mucky soil; scarce.

   [Erysimum (Tourn.) L.]

   [Erysimum cheiranthoides L. Worm-seed mustard.
   *Cheirinia cheiranthoides* of House and of B. & B.
   Collection of H. D. House, "No. 13482, dooryard, Newcomb, October 3, 1926".]

Lepidium (Tourn.) L.

1. Lepidium campestre (L.) R. Br. Downy peppergrass.
   Abandoned logging camp one-fourth mile south of Wolf Pond; in moist sandy soil; rare.

Lobularia Desv.

1. Lobularia maritima (L.) Desv. Sweet alyssum.
   *Koniga maritima* of House and of B. & B.
   Road to ranger station; in dry gravelly soil; rare.
Wildlife of the Huntington Wildlife Station

[Raphanus (Tourn.) L.]

[Raphanus raphanistrum L.  Wild radish.  Jointed charlock.]
Collection of H. D. House, "No. 26510, waste ground near Newcomb, June 22, 1939."

[Rorippa Scop.]

[Rorippa islandica (Oeder ex Murray) Borbas var. fernaldiana Butters and Abbe. (See Rhodora 42: 28. 1940.)  Marsh or yellow water cress.]
Collection of H. D. House, "No. 9048, shore of Lake Harris, July 13, 1922."

[Sisymbrium (Tourn.) L.]

[Sisymbrium altissimum L.  Tumble mustard.]
Norta altissima of House and of B. & B.
Collection of H. D. House, "No. 10715, waste ground, Newcomb, September 21, 1924."

[Sisymbrium officinale (L.) Scop.  Hedge mustard.]
Erysimum officinale of House and of B. & B.
Collection of H. D. House, "No. 14815, waste ground, Newcomb, July 9, 1927."

[Subularia L.]

[Subularia aquatica L.  Awlwort.]
Collection of H. D. House, "No. 18703, shore and shallow water of Lake Harris, August 6, 1931."

22. SARRACENIALES

40. SARRACENIACEAE (Pitcher Plant Family)

Sarracenia (Tourn.) L.

1. Sarracenia purpurea L.  Pitcher plant.
Peat bogs and wet mucky soil along lake shores; occasional.
41. DROSERACEAE (Sundew Family)

Drosera L.

1. Drosera longifolia L.  
   Spatulate-leaved sundew.
   *Drosera intermedia* of House and of B. & B.
   Collection of H. D. House, "No. 26916, shore south end of Catlin Lake, August 14, 1939: rare". Differs from *Drosera rotundifolia* by having spatulate leaf blades.

2. Drosera rotundifolia L.  
   Round-leaved sundew.
   In moss and on rotten logs; in boggy areas; occasional.

23. ROSALES

42. CRASSULACEAE (Orpine Family)

Sedum (Tourn.) L.

1. Sedum triphyllum (Haw.) S. F. Gray.  
   Live-for-ever.
   *Sedum purpureum* of Gray.
   One station in the crevice of a rock near the ranger station, in dry organic soil; rare.

43. SAXIFRAGACEAE (Saxifrage Family)

Chrysosplenium (Tourn.) L.

1. Chrysosplenium americanum Schwein.  
   Golden saxifrage.
   Woodlands; in cold running water and wet mucky areas; scarce.

Hydrangea (Gronov.) L.

1. Hydrangea arborescens L.  
   Cultivated.  
   Wild hydrangea.
   Cemetery; in dry sandy soil; not spreading.

2. Hydrangea paniculata Sieb. var. grandiflora Sieb.  
   Cultivated.
   Hydrangea.
   Cemetery; in dry sandy soil; not spreading.

Mitella (Tourn.) L.

1. Mitella nud^a L.  
   Miterwort.  
   Naked bishop’s cap.
   Collection of H. D. House, "No. 26689, mossy woods near Wolf Pond, July 11, 1939".
Ribes L.

1. **Ribes cynosbati** L.  
   *Grossularia cynosbati* of B. & B.  
   Top of Wolf Mountain; in moist well-drained sandy soil; rare.

2. **Ribes lacustre** (Pers.) Poir.  
   *Swamp black currant.*  
   Rocky slopes and rock crevices; in wet organic soil; rare.

3. **Ribes prostratum** L'Her.  
   *Skunk or fetid currant.*  
   *Ribes glandulosum* of House and of B. & B.  
   Clearings, mountain tops, and rocky slopes; in well-drained sandy soil; common.

4. **Ribes rotundifolium** Michx.  
   *Eastern wild gooseberry.*  
   *Grossularia rotundifolia* of B. & B.  
   Collection of H. D. House, "No. 11002, Goodnow Mountain, July 9, 1925".

   [**Ribes triste** Pall.  
    *Wild red currant.*  
    *Ribes triste*, in part, of B. & B.  
    "Collection of H. D. House, "No. 14767, swamp near Tahawas, July 9, 1927".]

   [**Ribes triste** Pall. var. **albinervium** (Michx.) Fern.  
    *Ribes triste*, in part of B. & B.  
    Collection of H. D. House, "No. 10995, openings in cold balsam swamp, Newcomb, July 9, 1925".  
    Differs from the species by having leaves glabrous or sparingly pubescent beneath.]

Tiarella L.

1. **Tiarella cordifolia** L.  
   *False miterwort.*  
   Creek banks, wooded slopes, and low depressions; usually in moist humus on sandy soil; common.

44. **ROSACEAE** (Rose Family)

Agrimonia (Tourn.) L.

1. **Agrimonia gryposepala** Wallr.  
   *Agrimony.*  
   Moderately shaded margins of clearings near the state highway; in well-drained sandy soil; scarce.

   [**Agrimonia striata** Michx.  
    *Agrimony.*  
    Collection of H. D. House, "No. 13481, open woods, Newcomb, October 3, 1926".]
Amelanchier Medic.


*Amelanchier canadensis* of Gray.
*Amelanchier canadensis*, in part, of B. & B.

Ackerman Clearing; in moist well-drained sandy soil; scarce.


*Amelanchier bartramiana* of House and of B. & B.

Mountain tops and margins of clearings; in moist sandy soil; occasional.

Aronia Medic.


*Pyrus melanocarpa* of Gray.

Clearings, lake shores, and margins of bogs; in wet sandy or organic soil; occasional.

Crataegus L.

[Crataegus brainerdii] Sarg. var. egglestonii (Sarg.) Robinson.

*Crataegus brainerdii*, in part, of B. & B.

Collection of H. D. House, "No. 7274, dry stony fields near Newcomb, July 15-30, 1920".]


Roadsides, clearings, and rocky ledges; in well-drained sandy soil; common.


Clearings near the state highway; in well-drained sandy soil; scarce.

[Crataegus macrosparma] Ashe var. matura (Sarg.) Eggl.

Collection of H. D. House, "No. 11404, open woods, Newcomb, September 11, 1925".]


*Crataegus coccinea*, in part, of W. & E.
*Crataegus albicans* of House and of B. & B.

Clearings near the state highway; in well-drained sandy soil; occasional. Differs from the species by having oval fruit.

4. *Crataegus* sp.

Margins of clearings; in well-drained sandy soil; occasional.
Dalibarda (Tourn.) L.

1. Dalibarda repens L. False violet.
   Wooded slopes, low depressions, and along creeks; in moist
   humus; common.

Filipendula (Tourn.) Mill.

1. Filipendula ulmaria (L.) Maxim. Queen of the meadow.
   Clearing near the CCC Camp; in dry sandy soil; scarce.

Fragaria (Tourn.) L.

1. Fragaria vesca L. var. americana Porter. Strawberry.
   Fragaria americana of House and of B. & B.
   Collection of H. D. House, "No. 26628, open woods west of New-
   comb, July 5, 1939".

2. Fragaria virginiana Duch. Field strawberry.
   Lake shores, clearings, burns, and roadsides in moist sandy soil;
   common. Differs from Fragaria vesca var. americana by having
   ovoid fruit with the achenes imbedded in pits and larger flowers,
   about 2 cm. in diameter.

Geum L.

   Creek banks and grassy clearings; in wet mucky areas; occasional.

2. Geum strictum Ait. Yellow avens.
   Creek banks; in wet mucky soil; occasional at the south end of
   the Forest.

Malus Mill.

   Malus malus of House and of B. & B.
   Pyrus malus of Gray.
   Old fields, and clearings along the state highway; in well-drained
   sandy soil; occasional. Persisting after cultivation, but not spread-
   ing.

Potentilla L.

1. Potentilla argentea L. Silvery cinquefoil.
   Roadssides; in dry sandy soil at the southern end of the Forest;
   scarce.
2. Potentilla canadensis L. var. simplex (Michx.) T. & G. Decumbent five-fingers.

Potentilla simplex of House and of B. & B.

Roadsides and clearings near the state highway; in dry sandy soil; occasional.

[Potentilla fruticosa L. Shrubby cinquefoil.

Dasiphora fruticosa of B. & B.

Collection of H. D. House, “No. 14845. moist shores, Lake Harris, July 10, 1927.”]


Potentilla monspeliensis of Gray, of House, and of B. & B.

Roadsides and clearings near the state highway; in well-drained sandy soil; common.


Comarum palustre of House and of B. & B.

Swamps and marshes; in wet mucky soil; scarce.

5. Potentilla recta L. Yellow cinquefoil.

Potentilla recta var. sulphurea of House.

Roadsides and clearings near the state highway; in well-drained sandy soil; occasional.

[Potentilla tridentata Ait. Three-toothed cinquefoil.

Sibbaldiopsis tridentata of B. & B.

One station on Santanoni Peak, in exposed organic soil; not found on the Forest.]

Prunus (Tourn.) L.

1. Prunus nigra Ait. Wild plum.

Clearings near the state highway; in sandy soil; scarce. Persisting after cultivation but not spreading. Leaves broadly obovate, doubly crenate-serrate, and subcaudately acuminate.

2. Prunus pensylvanica L. f. Pin or fire cherry.

Burns and clearings; in sandy soil; occasional. One of the first plants to invade burned slopes. Leaves oblong-lanceolate, very finely and unequally crenate-dentate, and gradually pointed.
3. **Prunus serotina** Ehrh.  
*Padus virginiana* of B. & B.

Mountain tops, south-facing ledges, and margins of clearings; in dry or moist sandy soil; occasional. Leaves elliptical or lanceolate, often with reddish-brown tomentum on the midvein beneath, and serrate with short incurved teeth.

4. **Prunus virginiana** L.  
*Padus nana* of B. & B.

Clearings and roadsides in sandy soil; occasional. Leaves obovate or oval, abruptly pointed, sharply (often doubly) serrate with slender teeth.

**Rosa** (Tourn.) L.

[Rosa *blanda* Ait.  
Collection of H. D. House, “No. 7277, common in moist places, shore of Lake Harris, July 15-30, 1920”.]

1. **Rosa carolina** L. var. *villosa* (Best.) Rehd.  
*Low pasture rose.*

*Rosa humilis* of Gray.  
*Rosa virginiana* of B. & B.

Clearings, roadsides, and waste areas; in dry sandy soil; common. A form with double flowers (H. F. Heady, Nos. 513 and 522) occurs near the ranger station and in one of the old fields near the CCC Camp.

2. **Rosa damascena** L.  
*Cultivated. Damask rose.*

Cemetery; in well-drained sandy soil; persistent but not spreading.

3. **Rosa palustris** Marsh.  
*Swamp or wild rose.*

*Rosa carolina* of Gray and of B. & B.

Creek banks and lake shores; in wet sandy soil; common.

4. **Rosa spinosissima** L.  
*Cultivated. Scotch rose.*

Cemetery; in dry sandy soil; persistent but not spreading.

5. **Rosa suffulta** Greene.  
*Rose.*

Collection of E. L. Stone, “No. 171, clearing near the ranger station in dry sandy soil, July 14, 1938; rare”.

[Rosa *suffulta* Greene var. *valida* Erlanson.  
Collection of H. D. House, “No. 9079, old field near Newcomb, July 18, 1922”.]
Rubus (Tourn.) L.

1. Rubus acaulis Michx. Dwarf raspberry.
   Rubus pubescens of W. & E. and of House.
   Rubus triflorus of Gray and of B. & B.
   Roadsides, clearings, and woodlands; in wet sandy well-drained soil; common.

   Clearings and roadsides; in well-drained sandy or gravelly soil; common.

   Rubus canadensis, in part, of B. & B.
   Rubus elegantulus of Gray and of House.
   Clearings and roadsides; in well-drained sandy soil; common.

4. Rubus glandicaulis Blanch.
   Collection of H. D. House, "No. 14821, Rich Lake, July 10, 1927".

   Rubus strigosus, in part, of B. & B.
   Rubus strigosus var. canadensis of House.
   Mountain tops, trails, roadsides, and clearings; in moist sandy or rocky soil; common. New canes pubescent or somewhat tomentulose beneath the prickles.

5a. Rubus idaeus L. var. strigosus Michx.) Maxim. Red raspberry.
   Rubus idaeus var. aculeatissimus of Gray.
   Rubus strigosus of House.
   Rubus strigosus, in part, of B. & B.
   Clearings, roadsides, and wooded slopes; in moist humus or sandy soil; very common. New canes glabrous or nearly so beneath the prickles.
6. **Rubus juncus** Blanch.
   Collection of H. D. House, "No. 18703, thickets along shore of Rich Lake, August 6, 1931".

7. **Rubus montpelierensis** Blanch.
   Clearing at the base of the Goodnow Mountain trail; in well-drained sandy soil; scarce.

8. **Rubus nigricans** Rydb. (Swamp blackberry.
   Collection of H. D. House, "No. 18703, thickets along shore of Rich Lake, August 6, 1931".

9. **Rubus sp.** (Blackberry.
   Clearing near the state highway; in dry sandy soil; rare.

10. **Sanguisorba** (Rupp.) L.
    1. **Sanguisorba canadensis** L. (Canadian burnet.
       Collection of H. D. House, "No. 26931, damp meadow near Newcomb, August 14, 1939".

11. **Sorbus** (Tourn.) L.
    1. **Sorbus americana** Marsh. (Mountain ash.
       Pyrus americana of Gray.
       Lake shores, rock ridges, and mountain tops; in moist well-drained sandy soil; occasional. Leaflets lanceolate-acuminate.

    1. **Sorbus dumosa** Greene. (Northern mountain ash.
       Pyrus sitchensis of Gray.
       Sorbus scopulina of B. & B.
       Collection of W. C. Muenscher and A. A. Lindsey, "No. 3396, along the shore of Lake Harris, August 29, 1932". Leaflets elliptic-oblong, mostly obtuse or abruptly pointed.

12. **Spiraea** (Tourn.) L.
    1. **Spiraea latifolia** (Ait.) Borkh. (Meadow sweet.
       Marshes, lake shores, and bog margins; in wet organic or sandy soil; occasional.
2. **Spiraea tomentosa** L.  
**Hardhack. Steeple bush.**  
Lake shores, bog margins, and creek banks; in wet organic or sandy soil; scarce.

[Waldsteinia Willd.]

[Waldsteinia fragarioides (Michx.) Tratt. **Barren strawberry.**]  
Collection of H. D. House, "No. 8068, woods near Newcomb, June 11, 1921".

45. **LEGUMINOSAE (Pea Family)**

**Medicago** (Tourn.) L.

1. **Medicago lupulina** L.  
**Black or hop clover.**  
Roadsides and clearings at the southern end of the Forest; in moist sandy soil; scarce.

**Melilotus** (Tourn.) Mill.

1. **Melilotus alba** Desr.  
**White sweet clover. White melilot.**  
Clearing near the ranger station; in dry sandy soil; rare. Planted and slightly spreading.

2. **Melilotus officinalis** (L.) Lam.  
**Yellow sweet clover. Yellow melilot.**  
Clearing near the ranger station; in dry sandy soil; rare. Planted and slightly spreading.

**Trifolium** (Tourn.) L.

1. **Trifolium agrarium** L.  
**Yellow or hop clover.**  
Roadsides; in well-drained sandy soils; scarce.

2. **Trifolium hybridum** L.  
**Alsike clover.**  
Abandoned camps, clearings, and roadsides; in moist rich sandy soil; occasional.

3. **Trifolium pratense** L.  
**Red clover.**  
Clearings and roadsides; in well-drained sandy soil; occasional.

4. **Trifolium repens** L.  
**Creeping white clover.**  
Clearings and roadsides at the southern end of the Forest; in well-drained sandy soil; occasional.
Wildlife of the Huntington Wildlife Station

Vicia (Tourn.) L.

1. Vicia cracca L.  
   Wild, blue, or tufted vetch.  
   Meadows, clearings, and roadsides; in moist sandy soil; common.

[Vicia angustifolia (L.) Reich.  
   Narrow-leaved vetch.  
   Collection of H. D. House, “No. 11394, in a field of oats near Newcomb, September 14, 1925.”]

24. GERANIALES

46. OXALIDACEAE (Wood Sorrel Family)

   Oxalis L.

   1. Oxalis montana Raf.  
      Pink wood sorrel.  
      Oxalis acetosella of Gray, of House, and of B. & B.
      Deep woods; in moist humus; very common, especially with witch hobble.

   2. Oxalis europaea Jord. forma cymosa (Small) Wieg. (See Rhodora 27:135: 1925.)  
      Yellow wood sorrel.  
      Xanthoxalis cymosa of B. & B.
      Collection of H. D. House, “No. 26818, moist sandy roadside near Catlin Lake, July 24, 1939”.  
      Stems nearly or quite glabrous; pedicels villous and more or less viscid.

   2a. Oxalis europaea Jord. forma villicaulis Wieg.  
      Yellow wood sorrel.
      Oxalis corniculata of Gray.
      Xanthoxalis cymosa of B. & B.
      Roadsides, clearings, and waste places in dry sandy or gravelly soil; occasional.  
      Stems and pedicels villous.

47. GERANIACEAE (Geranium Family)

   Pelargonium L’Her.

   1. Pelargonium hortorum Bailey.  
      Cultivated.  
      Geranium.
      Planted during the growing season in the cemetery west of Newcomb, apparently not persisting through the winter.

48. TROPAEOLACEAE (Nasturtium Family)

   Tropaeolum L.

   1. Tropaeolum majus L.  
      Cultivated.  
      Nasturtium.
      Yard of the Arbutus Camp; in moist sandy soil.  
      Annual, not surviving the winter.
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[LINACEAE (Flax Family)]

[Linum (Tourn.) L.]

[**Linum usitatissimum** L.]
Common flax
Collection of H. D. House, "No. 11395, cultivated field of oats near Newcomb, September 14, 1925."

49. **EUPHORBIACEAE** (Spurge Family)

**Euphorbia** L.

1. **Euphorbia cyparissias** L.  
Cypress spurge.
*Tithymalus cyparissias* of B. & B.
Clearing near the ranger station; in dry sandy soil; rare.

[CALLITRICHACEAE (Water Starwort Family)]

[**Callitriche** L.]

**Callitriche palustris** L.  
Water starwort.
Collection of H. D. House, "No. 7239, along wet trail in woods, Newcomb, July 15-30, 1920."

25. **SAPINDALES**

[EMPETRACEAE (Crowberry Family)]

[**Empetrum** (Tourn.) L.]

[**Empetrum nigrum** L.]
Black crowberry.
Santanoni Peak; in exposed organic material between the rocks; not found on the Forest.

50. **ANACARDIACEAE** (Cashew Family)

**Rhus** (Tourn.) L.

1. **Rhus toxicodendron** L.  
Poison ivy.  Poison oak.
*Toxicodendron toxicodendron* of B. & B.
Shore of Rich Lake; in moist sand; rare.

2. **Rhus typhina** L.  
Staghorn sumach.
*Rhus hirta* of B. & B.
51. AQUIFOLIACEAE (Holly Family)

**Ilex** L.


Deciduous holly.

Lake shores, stream banks, and margins of marshes; in wet sandy or mucky soil; occasional.

**Nemopanthus** Raf.


Lake shores, marshes, and bog margins; in moist sandy or mucky soil; occasional.

52. CELASTRACEAE (Staff Tree Family)

**Celastrus** L.

1. *Celastrus scandens* L. *Climbing bittersweet.*

Collection of H. D. House, "No. 10950, rocky bank at the outlet of Rich Lake, July 2, 1925"; rare.

53. ACERACEAE (Maple Family)

**Acer** (Tourn.) L.


Ridges and shaded slopes of mixed conifer-hardwoods; in moist rich sandy soil; common.


Clearings, stream banks, wooded slopes, ridges, and margins of bogs, lakes, and marshes; in wet sandy, mucky or even boggy soil; very common.

3. *Acer saccharinum* L. *Silver, soft, or white maple.*

One station on the east shore of Catlin Lake near The Narrows; in wet sandy soil; rare.


Climax forest; wooded slopes, and edges of clearings; in moist well-drained sandy soil; very common.


Wooded slopes, low depressions, creek banks, and margins of swamps; in moist rich sandy soil; common.
54. BALSAMINACEAE (Touch-me-not Family)

**Impatiens** (Riv.) L.

1. **Impatiens biflora** Walt.  
   **Spotted touch-me-not. Jewel-weed.**
   Roadsides and open areas along streams; in wet rich sandy soil; occasional.

26. RHAMNALES

55. RHAMNACEAE (Buckthorn Family)

**Rhamnus** (Tourn.) L.

1. **Rhamnus alnifolia** L’Her.  
   **Swamp buckthorn.**
   Margins of swampy areas, creek banks, springy areas and low depressions; in wet mucky or sandy soil; occasional.

56. VITACEAE (Grape Family)

**Parthenocissus** Planch.

1. **Parthenocissus quinquefolia** (L.) Planch.  
   **Virginian creeper. Woodbine.**
   Parthenocissus quinquefolia, in part, of B. & B.
   Psedera quinquefolia of Gray and of House.
   Roadsides and clearings; in moist sandy soil; rare. Escaped from cultivation. May be trailing on the ground if no trees or shrubs are present.

1a. **Parthenocissus quinquefolia** (L.) Planch. var. **hirsuta** (Donn) Planch.  
   **Virginian creeper. Woodbine.**
   Parthenocissus quinquefolia, in part, of B. & B.
   Psedera quinquefolia var. hirsuta of Gray and of House.
   A pubescent form of Parthenocissus quinquefolia planted at the Arbutus Camp, and not spreading.

**Vitis** (Tourn.) L.

1. **Vitis novae-angliae** Fern.  
   (See Rhodora 19: 146. 1917.)  
   **Wild grape. New England grape.**
   Clearings along the state highway; in dry sandy soil; rare. Persistent after cultivation, but not spreading.
27. MALVALES

57. TILIACEAE (Linden Family)

Tilia (Tourn.) L.

1. Tilia americana L. Basswood, Linden. Ridges and south-facing slopes; in well-drained sandy soil; scarce.

58. MALVACEAE (Mallow Family)

Malva (Tourn.) L.

1. Malva moschata L. Musk mallow. Clearing near the ranger station; in moist sandy soil; rare.

28. PARIETALES

59. GUTTIFERAE (St. John’s-wort Family)

Hypericum (Tourn.) L.

1. Hypericum boreale (Britton) Bicknell. Northern St. John’s-wort. Open beaches; in wet sandy soil; scarce.

2. Hypericum canadense L. Canadian St. John’s-wort. Beach at the south end of Wolf Pond; in moist sandy soil; rare.

3. Hypericum ellipticum Hook. Elliptic-leaved St. John’s-wort. Lake shores, swamps, and marshes; in wet mucky or sandy soil; common.


4. Hypericum perforatum L. Common St. John’s-wort. Clearings, roadsides, and waste areas; in dry sandy soil; common.


5. Hypericum virginicum L. var. fraseri (Spach.) Fern. (See Rhodora 38: 434. 1936.) Marsh St. John’s-wort.

Hypericum virginicum, in part, of W. & E. and of Gray.
Triadenum virginicum, in part, of House and of B. & B.

Lake shores, marshes, swamps, and bogs; in wet mucky or sandy soil; common.
60. **VIOLACEAE** (Violet Family)

**Viola** (Tourn.) L.

*Viola blanda* Willd.  
**White violet.**  
Collection of H. D. House, "No. 26707, swamp on the Chase Road east of Newcomb, July 11, 1939].

1. **Viola canadensis** L.  
**Canada violet.**  
Wooded slopes, ridges, and creek banks; in wet rich sandy soil; scarce.

2. **Viola conspersa** Reich.  
**Dog violet.**  
Roadside near the cemetery; in moist sandy soil; scarce.

3. **Viola cucullata** Ait.  
**Marsh blue violet.**  
Wooded slopes, depressions, and stream banks in wet rich sandy or organic soil; common.

*Viola cucullata x septentrionalis*

[Collection of H. D. House, "No. 8806, moist roadside, partial shade, Pruyn Estate, June 3, 1922].

4. **Viola eriocarpa** Schwein. var. *leiocarpa* Fern. & Wieg.  
**Yellow violet.**

*Viola scabriuscula*, in part, of Gray.  
*Viola eriocarpa*, in part, of B. & B.  
Roadsides, clearings, and ridges; in moist sandy soil; occasional.

5. **Viola incognita** Brainerd.  
**White violet.**  
*Viola incognita*, in part, of Gray.  
Ridges; in moist rich sandy soil; scarce.

5a. **Viola incognita** Brainerd var. *forbesii* Brainerd.  
**White violet.**  
*Viola incognita*, in part, of Gray.  
Collection of H. D. House, "No. 26617, slope back of cemetery west of Newcomb, July 5, 1939].  
Differs from the species by having leaves glabrous below.

6. **Viola lanceolata** L.  
**Lance-leaved violet.**  
Collection of E. L. Stone, "No. 90, Big Sucker Brook inlet glade; in moist sand, June 20, 1938].

*Viola lanceolata x pallens*

[Collection of H. D. House, "No. 7254, moist shores of Lake Harris, July 15-30, 1920].]
   Collection of E. L. Stone, "No. 4, I-line and 130-chain stake, in deep moist organic soil. June 8, 1938".

8. Viola pubescens Ait. Yellow violet.
   Shaded woodlands; in moist rich sandy soil; scarce.

[Viola renifolia Gray. White violet.
   Viola renifolia, in part, of Gray and of B. & B.
   Collection of H. D. House, "No. 7255, cool mossy spruce woods, Newcomb, July 15-30, 1920".]

[Viola renifolia Gray var. brainerdii Fern. White violet.
   Viola renifolia, in part, of Gray and of B. & B.
   Collection of H. D. House, "No. 7255, cool mossy spruce woods, Newcomb, July 15-30, 1920".]

   Clearings and roadsides; in wet sandy soil; occasional.

    Ackerman clearing; in moist sandy soil; scarce.

    Roadside, woodlands, and clearings; in moist sandy or mucky soil; common.

    Cemetery; in moist sandy soil; not spreading.

61. BEGONIACEAE (Begonia Family)

Begonia L.

   Cemetery; in moist sandy soil; apparently not persistent over the winter.

29. MYRTIFLORAE

[THYMELAEACEAE (Mezereum Family)]

[Dirca L.] Leatherwood.
62. OENOTHERACEAE (Evening Primrose Family)

Circaea (Tourn.) L.

1. Circaea alpina L.  
Enchanter’s nightshade.  
Shaded springs and low depressions; in wet mucky soil; common.

Epilobium L.

1. Epilobium angustifolium L.  
Fireweed. Willow herb.  
Chamaenerion angustifolium of B. & B.  
Roadsides, recently disturbed areas, and lake shores; in dry or moist sandy soil; occasional.

2. Epilobium densum Raf.  
Linear-leaved willow herb.  
Epilobium linare of House and of B. & B.  
Swamps, marshes, and meadows; in wet mucky soil; scarce.

3. Epilobium glandulosum L.f. var. adenocaulon (Haussk.) Fern.  
Willow herb.  
Epilobium adenocaulon of Gray and of B. & B.  
Abandoned camps, creek banks, and clearings; in moist rich sandy soil; occasional.

[Ludwigia L.]

[Ludwigia palustris (L.) Ell. var. americana (DC.) Fern.  
(See Rhodora 37: 176. 1935.)  
Water purslane.  
Isnardia palustris of B. & B.  
Collection of H. D. House, "No. 10587, shore of Lake Harris, August 17, 1924".]

Oenothera L.

1. Oenothera biennis L.  
Evening primrose.  
Roadsides and recently disturbed areas; in dry sandy soil; scarce.

2. Oenothera perennis L.  
Sundrops.  
Kniefia perennis of House.  
Knieffia pumila of B. & B.  
Oenothera pumila of Gray.  
Abandoned camps, clearings, and roadsides; in well-drained sandy soil; common.

[Oenothera parviflora L.  
Oenothera muricata of Gray, of House, and of B. & B.  

For Epilobium palustre L. see Addenda p. 368.
63. HALORRHAGACEAE (Water Milfoil Family)

Myriophyllum (Vaill.) L.

1. Myriophyllum farwellii Morong. **Water milfoil.** Aquatic; in 1-2 m. of water in lakes and slowly moving streams; scarce.

2. Myriophyllum tenellum Bigel. **Slender water milfoil.** Borders of lakes and ponds; in wet sand; scarce.

30. UMBELLIFLORAE

64. ARALIACEAE (Ginseng Family)

Aralia (Tourn.) L.

1. Aralia hispida Vent. **Bristly sarsaparilla.** Exposed ledges and mountain tops; in dry sandy or organic soil; rare.

2. Aralia nudicaulis L. **Wild sarsaparilla.** Wooded ridges and slopes, often capping boulders; in moist rich sandy soil; occasional.

3. Aralia racemosa L. **Spikenard.** Creek bank along the outlet of Lodo Pond; in moist rich sandy soil; rare.

[Panax L.]

[Panax trifolium L. **Dwarf ginseng. Groundnut.** Collection of H. D. House, “No. 14784a, woods south of Woodruff Pond, July 9, 1927.”]

65. UMBELLIFERAE (Parsley Family)

Angelica L.

1. Angelica atropurpurea L. **Angelica.** Roadsides and creek banks; in wet mucky soil; scarce.

Carum L.

1. Carum carvi L. **Caraway.** Roadsides and clearings; in well-drained sandy soil; common.

Cicuta L.

1. Cicuta bulbifera L. **Bulb-bearing water hemlock.** Swamps and margins of bogs; in wet mucky soil; rare.
Hydrocotyle (Tourn.) L.

1. Hydrocotyle americana L. Water pennywort.
   Collection of H. D. House, “No. 26843, marsh at south end of Wolf Pond, July 24, 1939”.

Osmorhiza Raf.

1. Osmorhiza claytoni (Michx.) C. B. Clarke. Hairy sweet cicely.
   Washingtonia claytoni of House and of B. & B.
   Shaded roadsides, ridges, and slopes; in well-drained sandy soil; occasional.

Pastinaca L.

1. Pastinaca sativa L. Wild parsnip.
   Roadsides and clearings; in well-drained sandy soil; rare.

Sanicula (Tourn.) L.

   Roadsides and clearings; in well-drained sandy soil; rare.

Thaspium Nutt.

1. Thaspium barbinode (Michx.) Nutt. Meadow parsnip.
   Roadsides and clearings near the state highway; in well-drained sandy soil; scarce.

[Zizia Koch]

[Zizia aurea (L.) Koch. Meadow parsnip.
   Collection of H. D. House, “No. 9396, shore of Lake Harris, June 28, 1923”.

66. CORNACEAE (Dogwood Family)

Cornus (Tourn.) L.

[Cornus alternifolia L. f. Alternate-leaved dogwood.
   Collection of H. D. House, “No. 10725, woods, Newcomb, September 22, 1924”.

   Chamaepericlymenum canadense of B. & B.
   Clearings, wooded slopes and ridges, and low depressions; in dry sandy to wet mucky soil; very common.
Red osier.  
Lake shores, creek banks and margins of swamps; in wet sandy or mucky soil; common.

31. **ERICALES**  
67. **PIROLACEAE** (Wintergreen Family)

**Chimaphila** Pursh.

**Prince’s pine. Pipsissewa.**  

*Chimaphila umbellata* of Gray, of House, and of B. & B.

Collection of E. L. Stone, “No. 161, rock ledge along Trail End Bay; in organic soil, July 13, 1938; rare”. This is the American form of the European species, *Chimaphila umbellata* (see Rhodora 19: 241. 1917).

**Moneses** Salisb.

**One-flowered shinleaf.**  

Collection of E. L. Stone, “No. 167, roadside, one-fourth mile east of the ranger station; in well-drained sandy soil; rare”.

**Monotropa** L.

1. *Monotropa uniflora* L.  
**Indian pipe.**  
Saprophyte on dry or moist humus; in shaded woodlands; occasional.

**Pirola** (Tourn.) L.

**Pirola asarifolia** Michx.  
**Liverleaf wintergreen.**  

Collection of H. D. House, “No. 10946, mossy shaded spruce-tamarack swamp, Newcomb, July 1, 1925; rare”.

**Shinleaf.**  
Shaded areas in old fields near the state highway; in rich moist organic soil; scarce.

**Shinleaf.**  

*Pyrola americana* of Gray, of House, and of B. & B.

Collection of H. D. House, “No. 26616, wooded slope south of the cemetery, July 5, 1939”; rare.
3. **Pirola secunda** L.  
Shaded areas in old fields near the state highway; in rich moist organic soil; scarce.

68. **ERICACEAE** (Heath Family)

**Andromeda** L.

1. **Andromeda glaucophylla** Link.  
   *Andromeda polifolia* of B. & B.  
   Bogs and lake shores; in wet sphagnum or mucky soil; common.

**Chamaedaphne** Moench.

1. **Chamaedaphne calyculata** (L.) Moench.  
   Leather leaf.  
   Bogs and lake shores; in wet sphagnum or mucky soil; common.

**Chiogenes** Salisb.

1. **Chiogenes hispidula** (L.) T. & G.  
   Creeping snowberry.  
   Shaded mossy woods and bogs; in moist humus or sphagnum; common.

**Epigaea** L.

1. **Epigaea repens** L.  
   Trailing arbutus. Mayflower.  
   Shaded woodlands; in moist humus on sandy or rocky soil; rare.

**Gaultheria** (Kalm) L.

1. **Gaultheria procumbens** L.  
   Wintergreen.  
   Shaded woodlands; in moist humus on sandy soil; occasional.

**Gaylussacia** HBK.

1. **Gaylussacia baccata** (Wang.) K. Koch.  
   Black huckleberry.  
   Lake shores; in moist rich sandy or rocky soil; occasional.

**Kalmia** L.

1. **Kalmia angustifolia** L.  
   Sheep laurel.  
   Bogs, lake shores, and creek banks; in moist rich sandy or mucky soil; occasional.

2. **Kalmia polifolia** Wang.  
   Bog laurel.  
   Bogs and lake shores; in wet sphagnum; occasional.
Fig. 70. American white hellebore (Veratrurn viride). Photo by P. M. Silloway.

Fig. 71. Blueberry (Vaccinium canadense). Photo by P. M. Silloway.
Fig. 72. Typical view of The Fallows. Photo by C. E. Johnson.

Fig. 73. Beaver meadow at outlet of Wolf Lake. Photo by C. E. Johnson.
Ledum L.

1. **Ledum groenlandicum** Oeder.  
   Labrador tea.  
   Bogs and lake shores; in wet sphagnum or mucky soil; common.

Vaccinium L.

1. **Vaccinium canadense** Kalm.  
   Sour-top. Velvet-leaf blueberry.  
   Shaded woods, bogs, margins of marshes, lake shores, clearings, and roadsides; in dry sandy to wet mucky soil; very common. Leaves entire, downy on both sides.

2. **Vaccinium macrocarpon** Ait.  
   Large cranberry.  
   *Oxycoccus macrocarpus* of House and of B. & B.  
   Bogs; in wet sphagnum; common cranberry of Lodo Pond and Deer Lake; not found elsewhere. Leaves obtuse scarcely revolute; stems prolonged beyond the flowers and fruit.

3. **Vaccinium oxycoccus** L.  
   Small cranberry.  
   *Oxycoccus oxycoccus* of House and of B. & B.  
   Bogs; in wet sphagnum, common cranberry of the bog south of Wolf Pond; not found elsewhere. Leaves acute, strongly revolute; stems not prolonged beyond the flowers and fruit.

4. **Vaccinium pensylvanicum** Lam.  
   Low or early blueberry.  
   *Vaccinium angustifolium* of House and of B. & B.  
   Exposed mountain tops and lake shores; in rich sandy soil; scarce. Leaves serrulate with bristle-pointed teeth, green and glabrous on both sides or slightly pubescent on the veins beneath.

[Vaccinium uliginosum L.  
   Bog bilberry.  
   Exposed top of Santanoni Peak; in organic material between the rocks. Not found on the Forest.]

**32. PRIMULALES**

69. PRIMULACEAE (Primrose Family)

**Lysimachia** (Tourn.) L.

1. **Lysimachia nummularia** L.  
   Moneywort. Yellow myrtle.  
   Clearing near the state highway; in dry sandy soil; rare. Persistent after cultivation.
2. **Lysimachia terrestris** (L.) BSP.  
Yellow loosestrife.  
Bogs, marshes, swamps, and lake margins; in wet sandy or mucky soil; common.

**Primula** L.
1. **Primula** sp. (probably **Primula veris** L.) Cultivated. **Primrose**.  
Cemetery; in dry sandy soil; planted and slightly spreading.

**Steironema** Raf.
1. **Steironema ciliatum** (L.) Raf.  
Fringed loosestrife.  
Creek banks, and margins of marshes and swamps; in wet mucky soil; scarce.

**Trientalis** (Rupp.) L.
1. **Trientalis borealis** Raf.  
Starflower.  
**Trientalis americana** of Gray and of B. & B.  
Woodlands and roadsides; in moist rich humus on sandy soil; occasional.

33. **CONTORTAE**

70. **OLEACEAE** (Olive Family)

**Fraxinus** (Tourn.) L.
1. **Fraxinus americana** L.  
White ash.  
Old fields and ridges; in moist well-drained sandy soil; occasional. Lateral leaflets short-stalked; body of fruit terete, tapering below.

2. **Fraxinus nigra** Marsh.  
Black ash.  
Lake shores, creek banks, margins of swamps, and low depressions; in wet sandy to mucky soil; occasional. Lateral leaflets nearly sessile; body of fruit flat, of equal breadth at both ends.

**Syringa** L.
1. **Syringa vulgaris** L.  
Common lilac.  
Clearings near the state highway; in well-drained sandy soil; rare. Persisting after cultivation.

71. **GENTIANACEAE** (Gentian Family)

**Gentiana** (Tourn.) L.
1. **Gentiana linearis** Froel.  
Narrow-leaved gentian.  
**Dasystephana linearis** of B. & B.  
Clearings, lake shores, and meadows; in dry or moist rich sandy soil; occasional.
Wildlife of the Huntington Wildlife Station

[Menyanthes (Tourn.) L.]

[Menyanthes trifoliata L.]

Buckbean.

Collection of H. D. House, "No. 7185, bog near Newcomb, June 3, 1922].

Nymphoides (Tourn.) Hill

1. Nymphoides lacunosum (Vent.) Fern.

Floating heart.

Trachysperma lacunosa of House.

Floating-leaved aquatic; in about 1 m. of water; occasional.

72. APOCYNACEAE (Dogbane Family)

Apocynum (Tourn.) L.

1. Apocynum androsaemifolium L.

Spreading dogbane.

Clearings, roadsides, and recently disturbed areas near the state highway; in dry sandy soil; occasional.

Vinca L.

1. Vinca minor L.

Cultivated.

Periwinkle.

Cemetery; in dry sandy soil; planted and slightly spreading.

73. ASCLEPIADACEAE (Milkweed Family)

Asclepias (Tourn.) L.

1. Asclepias incarnata L.

Swamp milkweed.

Swamps, lake shores, and springy areas; in wet mucky soil; scarce.

2. Asclepias syriaca L.

Common milkweed.

Clearings near the state highway; in dry sandy soil; scarce.

34. TUBIFLORAE

[CONVOLVULACEAE (Morning-glory Family)]

[Convolvulus (Tourn.) L.]

[Convolvulus spithamaeus L.]

Low bindweed.

Collection of H. D. House. "No. 9387, in sandy soil, Tahawas Club, June 27, 1923]."
74. POLEMONIACEAE (Phlox Family)

Phlox L.

1. Phlox maculata L. Wild sweet william.
Clearings near the state highway; rare. Escaped from cultivation.

2. Phlox paniculata L. Cultivated.
Garden phlox.
Dooryard at the ranger station; in dry sandy soil; planted and not spreading.

Ground or moss pink.
Cemetery; in dry sandy soil; planted and slightly spreading.

[BORRAGINACEAE (Borage Family)]

[Symphytum (Tourn.) L.]

[Symphytum officinale L.]
Comfrey.
Collection of H. D. House, "No. 11029, roadside near Newcomb, July 13, 1925].

75. LABIATAE (Mint Family)

Agastache Clayt.

1. Agastache foeniculum (Pursh) Ktze.
Agastache anethiodora of House and of B. & B.
Collection of H. D. House, "No. 26706, border of woods east of Newcomb, July 11, 1939].

Galeopsis L.

1. Galeopsis tetrahit L. var. bifida (Boenn.) L. & C. Hemp nettle.
Galeopsis tetrahit, in part, of Gray and of B. & B.
Clearings, roadsides, and creek banks; in wet mucky or sandy soil; occasional.

Leonurus L.

1. Leonurus cardiaca L. Motherwort.
Arbutus camp; in moist sandy soil near one of the buildings; rare.

Lycopus (Tourn.) L.

Creek banks, lake shores, margins of swamps, and clearings; in moist sandy or mucky soil; occasional.
2. *Lycopus uniflorus* Michx. **Bugle weed.**
Beaver dams, swamps, and marshes; in mucky soil; occasional.

**Mentha** (Tourn.) L.
1. *Mentha arvensis* L. var. *canadensis* (L.) Briq. **Mint.**
*Mentha canadensis* of House and of B. & B.
Roadsides, clearings, and creek banks; in moist rich sandy soil; common.

**Monarda** L.
Cemetery; in dry sandy soil; rare. Persistent but not spreading.
2. *Monarda fistulosa* L. Cultivated. **Wild bergamot.**
Dooryard of the ranger station; in dry sandy soil; rare. Persistent but not spreading.

**Nepeta** L.
1. *Nepeta cataria* L. **Catnip.**
Clearings; in moist sandy soil; rare.
2. *Nepeta hederacea* (L.) Trev. **Ground ivy. Gill-over-the-ground.**
*Glecoina hederacea* of House and of B. & B.
Dooryards and clearings near the state highway; in dry sandy soil; scarce.

**Prunella** L.
1. *Prunella vulgaris* L. **Heal-all. Self-heal.**
Roadsides, trails, and clearings; in moist sandy soil; common.

**Scutellaria** L.
1. *Scutellaria epilobiifolia* Hamil. **Marsh skullcap.**
*Scutellaria galericulata* of Gray, of House, and of B. & B.
Lake shores, meadows, creek banks and borders of marshes; in wet sandy or mucky soil; common.
2. *Scutellaria lateriflora* L. **Mad-dog skullcap.**
Shaded creek banks and low depressions; in wet rich poorly-drained soil; occasional.
Satureja (Tourn.) L.

   Clinopodium vulgare of House and of B. & B.
   Roadsides, clearings, and recently disturbed areas; in moist sandy soil; common.

[Stachys (Tourn.) L.]

[Stachys palustris L. var. homotricha Fern. Woundwort.
   Collection of H. D. House, "No. 8518, stony pasture along the Hudson River near Newcomb, August 8, 1921].

76. SOLANACEAE (Nightshade Family)

Petunia Juss.

1. Petunia axillaris BSP. Cultivated. White petunia.
   Cemetery; in dry sandy soil; slightly spreading.

   Cemetery; in dry sandy soil; slightly spreading.

Physalis L.

   Chinese lantern-plant.
   Yard at the Arbutus Camp; in moist sandy soil; not spreading.

[Physalis heterophylla Nees. Ground cherry.
   Collection of H. D. House, "No. 15368, barnyard, near Newcomb, August 12, 1927].

Solanum (Tourn.) L.

1. Solanum dulcamara L. Blue nightshade.
   Abandoned cellar near the state highway; in moist sandy soil; rare.

77. SCROPHULARIACEAE (Figwort Family)

Chelone (Tourn.) L.

   Shaded creek banks and low depressions; in wet mucky soil; occasional.

Ilysanthes Raf.

1. Ilysanthes dubia (L.) Barnh. False pimprenel.
   Shore of Catlin Lake; in wet sand; scarce.
Linaria (Tourn.) Mill.

1. Linaria vulgaris Hill.  
   Linaria linaria of House and of B. & B. 
   Clearings near the state highway; in well-drained sandy soil; rare.

Mimulus L.

1. Mimulus ringens L.  
   Monkey flower. 
   Marshes, swamps, and borders of lakes; in wet mucky soil; occa- 
   sional.

Scrophularia (Tourn.) L.

1. Scrophularia lanceolata Pursh.  
   Figwort. 
   Scrophularia leporella of Gray and of B. & B. 
   The Fallows; in moist rich sandy soil; rare.

Verbascum (Tourn.) L.

1. Verbascum thapsus L.  
   Common mullein. 
   Roadsides and clearings; in dry to moist sandy soil; occasional.

Veronica (Tourn.) L.

[Veronica americana Schw.  
   American brooklime. 
   Collection of H. D. House, “No. 8089, marsh near Newcomb, 
   June 11, 1921”.

1. Veronica officinalis L.  
   Common speedwell. 
   Clearings, roadsides, mountain tops, trails and woodlands; in moist 
   rich sandy soil; common.

2. Veronica scutellata L.  
   Marsh speedwell. 
   Creek banks, swamps, beaver dams, and lake shores; in wet mucky 
   soil; common.

3. Veronica serpyllifolia L.  
   Thyme-leaved speedwell. 
   Clearings near the state highway; in moist sandy soil; rare.

78. OROBANCHACEAE (Broom Rape Family)

Epifagus Nutt.

1. Epifagus virginiana (L.) Bart.  
   Beechdrops. 
   Leptamnium virginianum of House and of B. & B. 
   Beech woods; in moist sandy soil; occasional. Parasite on the 
   roots of beech.
Orobanche (Tourn.) L.

1. Orobanche uniflora L.  
   *Aphyllon uniflorum* of House.  
   *Thalcsia uniflora* of B. & B.  
   Bracken areas near the state highway; in moist sandy soil; rare. Parasitic on the roots of various herbs, especially ferns.

79. LENTIBULARIACEAE (Bladderwort Family)

Utricularia L.

1. Utricularia cornuta Michx.  
   *Stomoisia cornuta* of B. & B.  
   Open areas in sphagnum bogs and lake shores; in wet mucky to sandy soil; common.

2. Utricularia gibba L.  
   *Humped bladderwort.*  
   Free-floating aquatic, in Deer Pond; rare.

3. Utricularia intermedia Hayne.  
   *Flat-leaved bladderwort.*  
   Mucky bottom of Deer Pond; in shallow water; rare.

4. Utricularia purpurea Walt.  
   *Purple bladderwort.*  
   *Utricularia macrorhiza* of House and of B. & B.  
   North shore of Catlin Lake, rooted in clay; rare.

5. Utricularia resupinata B. D. Greene.  
   *Reclined bladderwort.*  
   Free-floating or rooted aquatic of lakes and slowly moving streams; in 0.5-2 m. of water; common.

6. Utricularia vulgaris L. var. americana Gray.  
   *Great bladderwort.*  
   *Utricularia macrorhiza* of House and of B. & B.  
   Free-floating in lakes, stagnant ponds, and slowly moving streams; occasional.

35. PLANTAGINALES

80. PLANTAGINACEAE (Plantain Family)

Plantago (Tourn.) L.

1. Plantago lanceolata L.  
   *Rib grass. English plantain.*  
   Roadsides, clearings, dooryards, and recently disturbed areas; in dry sandy soil; common.
2. Plantago major L.  
*Plantain.*
Roadsides, dooryards, and recently disturbed areas; in dry sandy soil; occasional.

36. RUBIALES
81. RUBIACEAE (Madder Family)

Cephalanthus L.

1. Cephalanthus occidentalis L.  
*Buttonbush.*
Shores of Rich Lake; in wet mucky soil; rare.

Galium L.

1. Galium asprellum Michx.  
*Rough bedstraw.*
Roadsides and clearings; in wet rich sandy soil; scarce.

2. Galium boreale L.  
*Northern bedstraw.*
Clearings and roadsides; in moist sandy soil; scarce.

*Bedstraw.*
Borders of bogs, lakes, and swamps; in wet mucky soil; occasional. Pedicels straight, glabrous; flowers mostly in terminal clusters of 2's and 3's.

4. Galium palustre L.  
*Marsh bedstraw.*
Roadsides and clearings; in moist sandy soil; occasional.

5. Galium trifidum L.  
*Small bedstraw.*
Lake shores and margins of swamps and bogs; in wet mucky soil; occasional. Differs but slightly from *Galium claytoni* by having slender, arcuate, scabrous pedicels and flowers usually solitary or when terminal in 3's. *Galium trifidum* and *Galium claytoni* are in most cases specifically distinct; however, specimens are found with one or more of the above characters intergrading.

*Sweet-scented bedstraw.*
Wooded slopes, roadsides, and clearings; in moist rich sandy soil; common.

Houstonia L.

1. Houstonia caerulea L.  
*Bluets.*
Roadsides and clearings; in moist sandy soil; occasional.
Mitchella L.

1. **Mitchella repens** L. \(\text{Partridge berry.}\)
   Wooded uplands; in moist humus on sandy soil; occasional.

82. **CAPRIFOLIACEAE** (Honeysuckle Family)

Diervilla (Tourn.) Mill.

1. **Diervilla lonicera** Mill. \(\text{Bush honeysuckle.}\)
   *Diervilla diervilia* of House and of B. & B.
   Rock slides, mountain tops, clearings, and roadsides; in moist rich or dry sandy soil; occasional.

Linnaea (Gronov.) L.

1. **Linnaea borealis** L. var. *americana* (Forbes) Rehder. \(\text{Twin flower.}\)
   *Linnaea americana* of B. & B.
   Lake shores, roadsides, and woodlands; in moist humus to sandy soil.

Lonicera L.

1. **Lonicera canadensis** Marsh. \(\text{Fly honeysuckle.}\)
   Woodlands; in moist rich sandy soil; common.

2. **Lonicera hirsuta** Eaton. \(\text{Hairy honeysuckle.}\)
   Shore of Rich Lake; in organic material on rocks; rare.

3. **Lonicera tatarica** L. \(\text{Tartarian honeysuckle.}\)
   Clearings near the state highway; in moist sandy soil; rare. Persisting after cultivation, but not spreading.

   [**Lonicera villosa** (Michx.) Roem. & Schultes var. *tonsa* Fern.
   (See Rhodora 27: 9. 1925.) \(\text{Mountain fly honeysuckle.}\)]

   *Lonicera caerulea*, in part, of House and of B. & B.

Sambucus (Tourn.) L.

1. **Sambucus canadensis** L. \(\text{Common elder.}\)
   Creek banks and clearings; in moist sandy soil; scarce. Inflorescence corymbose; pith white; fruit dark purple.
2. *Sambucus racemosa* L. **Red-berried elder.**

Wooded slopes and ridges, creek banks, and margins of clearings; in moist sandy soil; occasional. Inflorescence racemose; pith brownish; fruit coral-red.

**Viburnum** (Tourn.) L.


Woodlands, except in old fields, burns, and spruce swamps; in moist rich sandy soil; very common.


Clearings, creek banks, lake shores, and swamps; in wet mucky soil; occasional.

3. *Viburnum dentatum* L. **Arrow-wood.**

Swamps, lake shores, and creek banks; in wet mucky soil; occasional.

[V*Viburnum lentago* L. **Nannyberry. Sheepberry.**

Collection of H. D. House, "No. 7934, wet soil, Newcomb, June 6, 1921".]

4. *Viburnum opulus* L. **Highbush cranberry. Cranberry-tree.**

Clearings near the state highway; in sandy soil; rare. Persisting after cultivation, but not spreading.


Persisting after cultivation in clearings near the state highway. Differs from the species by having nearly glabrous leaves with long-acuminate curved lobes.

37. **CAMPANULATAE**

83. **CAMPANULACEAE** (Bluebell Family)

**Campanula** (Tourn.) L.

1. *Campanula aparinoides* Pursh. **Marsh bedstraw.**

Collection of E. L. Stone, "No. 215, shore of Rich Lake, July 29, 1938". Corolla 5-8 mm. long; capsules 1.2-2 mm. long; and peduncles strongly divergent.
2. **Campanula rapunculoides** L. **Bell-flower.**
   Dooryards and roadsides; in dry sandy soil; rare. Escaped from cultivation.

3. **Campanula rotundifolia** L. **Harebell.**
   Along the state highway; in dry sandy soil; rare.

4. **Campanula uliginosa** Rydb. **Marsh bell-flower.**
   Shore of Rich Lake; in wet mucky or sandy soil; scarce. Differs from *Campanula aparinoides* by having larger more bluish flowers on ascending peduncles; capsules 3.2-5 mm. long.

**Lobelia (Plum.) L.**

1. **Lobelia cardinalis** L. **Cardinal flower.**
   Shore of Rich Lake; in wet sandy soil; scarce.

2. **Lobelia dortmannana** L. **Water lobelia.**
   Lake shores; in wet sandy soil; common. Usually immersed with only the tops of the flowering spikes above water.

3. **Lobelia inflata** L. **Indian tobacco.**
   Clearings, roadsides, and margins of lakes and swamps; in dry to moist sandy soil; occasional.

   [**Lobelia kalmii** L. **Brook lobelia.**
   Collection of H. D. House, "No. 7227, wet shores of Lake Harris, July 15-30, 1920".]

   [**Lobelia spicata** Lam. var. hirtella Gray. **Pale spiked lobelia.**
   *Lobelia spicata*, in part, of House and of B. & B.
   Collection of H. D. House, "No. 9078, field near Newcomb, July 18, 1922".]

84. **COMPOSITAE (Composite Family)**

**Achillea (Vaill.) L.**

1. **Achillea millefolium** L. **Yarrow.**
   Clearings, roadsides, and camp sites; in well-drained sandy soil; common.

   [**Ambrosia (Tourn.) L.**]

   [**Ambrosia artemisiifolia** L. **Ragweed.**
   *Ambrosia elatior* var. *artemisiifolia* of House.
   *Ambrosia elatior*, in part, of B. & B.
   Collection of H. D. House, "No. 11343, dooryard weed, Newcomb, September 6, 1925; rare".]
Fig. 75. Rose and alder fringe along Deer Creek at Deer Pond. Photo by C. E. Johnson.
[Ambrosia psilostachya] DC.
Ragweed.
Collection of H. D. House, “No. 11403, old meadow near Newcomb, September 15, 1925”.

Anaphalis DC.
1. Anaphalis margaritacea (L.) B. & H.
Pearly everlasting.
Clearings, roadsides, and abandoned building sites; in well-drained sandy soil; common.

Antennaria Gaertn.
1. Antennaria canadensis Greene.
Pussy’s toes.
Lake shores, clearings, and roadsides; in dry sandy soil; common.
2. Antennaria neglecta Greene.
Pussy’s toes.
Clearings and burned areas; in well-drained sandy soil; occasional.
3. Antennaria neodioica Greene.
Pussy’s toes.
Clearings; in dry sandy soil; scarce.
Pussy’s toes.
Collections of H. D. House, “No. 9352, field near Newcomb, June 21, 1923”.
Pussy’s toes.
Clearings; in well-drained sandy soil; scarce.

Arctium L.
[Arctium lappa L. var. purpurascens] (LeGrand) Fern. & Wieg.
(See Rhodora 12: 45. 1910.)
Great burdock.
Collection of H. D. House, “No. 15354, dooryard near Newcomb, August 12, 1927”.
1. Arctium minus (Hill) Bernh.
Burdock.
Clearings at the southern end of the Forest; in well-drained sandy soil; occasional.
Arctium vulgare of House.
Collection of H. D. House, “No. 10470, roadside, Newcomb, August 9, 1924.” Differs from Arctium minus by having corymbose heads.
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[Artemisia L.]

[Artemisia absinthium L.]

Wormwood.

Collection of H. D. House, "No. 11360, near ruins of old dwelling on Hudson River trail one half mile below bridge, Newcomb, September 8, 1925".

Aster (Tourn.) L.

1. Aster acuminatus Michx.

Mountain aster.

Rock slides, creek banks and moderately shaded woods; in moist rich sandy soil; occasional.

[Aster cordifolius L.]

Blue woods aster.

Collection of H. D. House, "No. 10763, roadside near Newcomb, September 23, 1924: rare".


Aster polyphyllus of Gray.

Faxon's aster.

North end of Wolf Pond; in moist sandy soil; rare.

3. Aster lateriflorus (L.) Britton.

Calico aster.

Clearings and lake shores; in moist sandy soil; occasional.

4. Aster longifolius Lam.

Long-leaved aster.

Collection of H. D. House, "No. 26953, damp soil along road opposite cemetery west of Newcomb, August 23, 1939".

[Aster lucidulus (Gray) Wieg.

Aster.

Aster puniceus var. lucidulus of Gray and of House.

Aster puniceus, in part, of B. & B.

Collection of H. D. House, "No. 7578, shaded marshy places, Newcomb, September 14, 1920".

5. Aster macrophyllus L.

Large-leaved aster.

Old fields, creek banks, and wooded slopes; in moist rich sandy soil; common.

6. Aster nemoralis Ait.

Bog aster.

Collection of H. D. House, "No. 26995, marsh at south end of Wolf Pond, August 14, 1939".

[Aster novi-belgii L.]

New York aster.

Collection of H. D. House, "No. 8425, in moist places, Newcomb, August 3, 1921".
7. Aster paniculatus Lam.  
White field aster.  
Collection of E. L. Stone, “No. 216, south shore of Rich Lake; in moist sand, July 29, 1938”.

[Aster prenanthoides Muhl.  
Crooked-stemmed aster.  
Collection of H. D. House, “No. 27024, along old road on east side of Lake Sanford, only one plant found, September 6, 1939”.

8. Aster puniceus L.  
Purple-stemmed aster.  
Aster puniceus, in part, of B. & B.  
Roadsides at the southern end of the Forest; in wet mucky soil; occasional.

Aster puniceus x laevis  
Beaver dams; in mucky and sandy soil; occasional.

9. Aster tradescanti L.  
Shore of Rich Lake in moist sandy soil; scarce.

10. Aster umbellatus Mill.  
Flat-topped white aster.  
Doellingeria umbellata of House and of B. & B.  
Bracken areas, bogs, creek banks, and clearings; in wet mucky to sandy soil; common.

Bidens L.  
Stick-tight.

1. Bidens cernua L.  
Shore of Rich Lake; in wet sand, scarce.

2. Bidens vulgata Greene.  
Beggar's ticks.  
Old field near the ranger station; in well-drained sandy soil; occasional.

Centaurea L.  

1. Centaurea cyanus L.  
Bachelor's button.  
Yard of the Arbutus Camp; in moist sandy soil.

[Centaurea nigra L. var. radiata DC.  
Knapweed.  
Collection of H. D. House, “No. 10733, weed in cultivated field, Newcomb; September 22, 1924”.

Chrysanthemum (Tourn.) L.  

1. Chrysanthemum leucanthemum L. var. pinnatifidum Lecoq. & Lamotte.  
Daisy.  
Chrysanthemum leucanthemum, in part, of B. & B.  
Clearings, and roadsides; in moist sandy soil; common.
Cichorium (Tourn.) L.

1. Cichorium intybus L. Ch.ory. Blue sailors. Clearings near the state highway; in well-drained sandy soil; rare.

Cirsium (Tourn.) Mill.


3. Cirsium muticum Michx. Swamp thistle. Collection of E. L. Stone, "No. 169, clearing near the ranger station; in well-drained sandy soil, July 14, 1938; occasional".

Erechtites Raf.

1 Erechtites hieracifolia (L.) Raf. Fireweed. Rock slide on Panther Mountain; in moist organic soil; rare.

Erigeron L.

1 Erigeron annuus (L.) Pers. Daisy fleabane. Clearings and recently disturbed areas; in well-drained sandy soil; scarce.

2 Erigeron canadensis L. Horseweed. Leptilon canadense of House and of B. & B. Clearings at the southern end of the Forest; in well-drained sandy soil; common.

3. Erigeron philadelphicus L. Fleabane. Clearings, roadsides, and burned areas; in sandy soil; occasional.

4. Erigeron ramosus (Walt.) BSP. Daisy fleabane. Clearings near the state highway; in sandy soil; occasional.

Eupatorium (Tourn.) L.

1 Eupatorium maculatum L. Joe-pye weed. Eupatorium purpureum var. maculatum of Gray. Open creek banks and margins of swamps; in wet mucky soil; common.
2. Eupatorium perfoliatum L. Boneset. Margin of Lodo Pond; in wet mucky soil; scarce.


Gaillardia Foug.


Gnaphalium L.


1. Gnaphalium uliginosum L. Low cudweed. Clearing near the ranger station; in gravelly soil; scarce.

Heliopsis Pers.

1 Heliopsis scabra Dunal. Rough ox-eye. Clearing near the ranger station in dry sandy soil; scarce.

Hieracium (Tourn.) L.


4. Hieracium pratense Tausch. King devil. Roadside near the cemetery; in well-drained sandy soil; scarce.


For Hieracium florentinum All. and Hieracium murorum L. see Addenda p. 368.
Wildlife of the Huntington Wildlife Station

Inula L.

1. Inula helenium L.  
   Elecampane.
   Clearing near Newcomb; in dry sandy soil; rare.

Lactuca (Tourn.) L.

[Lactuca canadensis L.  
   Wild lettuce.
   Lactuca canadensis, in part, of B. & B.
   Collection of H. D. House, "No. 9084, thickets near Newcomb, July 18, 1922".]

[Lactuca canadensis L. var. integrifolia (Bigel.) Gray.  
   Lactuca canadensis, in part, of B. & B.
   Lactuca canadensis var. montana of House.
   Lactuca integrifolia of Gray.
   Collection of H. D. House, "No. 10696, open woods, Newcomb, September 20, 1924". Differs from the species by having unlobed leaves.]

1. Lactuca spicata (Lam.) Hitchc.  
   Blue lettuce.
   Along the state highway; in moist sandy soil; occasional.

[Petasites (Tourn.) Mill.]

[Petasites palmatus (Ait.) Gray.  
   Sweet coltsfoot.
   Collection of H. D. House, "No. 8054, marsh near Newcomb, June 10, 1921".]

Prenanthes (Vaill.) L.

1. Prenanthes altissima L.  
   Rattlesnake root.
   Nabalus altissimus of House and of B. & B.
   Woodlands at lower elevations; in moist organic layer; occasional.

Rudbeckia L.

1. Rudbeckia hirta L.  
   Black-eyed susan. Nigger-head.
   Recently disturbed areas and clearings; in sandy soil; occasional.

2. Rudbeckia laciniata L.  
   Cone-flower.
   Yard of the ranger station; in moist sandy soil; not spreading.

Senecio (Tourn.) L.

[Senecio aureus L.  
   Golden ragwort.
   Collection of H. D. House, "No. 7293, marsh near Newcomb, July 15-30, 1920".]
[Senecio aureus x robbinsii]
[Collection of H. D. House, “No. 8013, marsh near Newcomb, June 8, 1921”.
]

Clearings, burned areas, and roadsides; in well-drained sandy soil; occasional.

Solidago L.

[Solidago altissima L. Goldenrod.
Collection of H. D. House, “No. 7534, Newcomb, September 6, 1920”.
]

Clearings; in well-drained sandy soil; scarce.

2. Solidago canadensis L. Canada goldenrod.
Clearings, and roadsides; in well-drained sandy soil; common.

Moderately closed wooded slopes; in moist rich sandy soil; occasional.

4. Solidago graminifolia (L.) Salisb. Flat-topped goldenrod.
Enthamia graminifolia of B. & B.
Clearings; beaver dams, and margins of swamps, lakes, and bogs; in moist sandy soil; common.

Solidago uliginosa of Gray and of B. & B.
Bogs; in wet sphagnum, common.

[Solidago juncea Ait. Early goldenrod.
]

Solidago flexicaulis of House and of B. & B.
Woodlands; in moist rich sandy soil; occasional.
Wildlife of the Huntington Wildlife Station

[**Solidago macrophylla** Pursh.  
Large-leaved goldenrod.  
Exposed summit of Santanoni Peak; in organic soil; not found on the Forest.]

7. **Solidago nemoralis** Ait.  
Dwarf goldenrod.  
Clearings and roadsides; in well-drained sandy soil; occasional.

[Solidago puberula** Nutt.  
Downy goldenrod.  
Collection of H. D. House, "No. 18077, sandy field near Tahawas, August 28, 1930".]

[Solidago randii** (Porter) Britton.  
Rand's goldenrod.  
Collection of H. D. House, "No. 10690, Long Lake, September 19, 1924".]

8. **Solidago rugosa** Mill.  
Hairy goldenrod.  
Beaver dams, clearings, roadsides, and burned areas; in moist sandy to mucky soil; common.

9. **Solidago serotina** Ait.  
Late goldenrod.  
Solidago serotina, in part, of B. & B.  
Clearings and roadsides near the southern end of the Forest; in sandy soil; common.

[Solidago serotina Ait. var. gigantea** (Ait.) Gray.  
Solidago serotina, in part, of B. & B.  
Collection of H. D. House, "No. 8423, dry soil, Newcomb, August 1, 1921".]

[Solidago squarrosa** Muhl.  
Ragged goldenrod.  
Collection of H. D. House, "No. 7547, dry hillside near Newcomb, September 8, 1920".]

**Tagetes L.**

1. **Tagetes signata** Bartl.  
Cultivated.  
Marigold.  
Yard at the Arbutus Camp; in moist sandy soil; persistent, but not spreading.

**Tanacetum L.**

1. **Tanacetum vulgare** L.  
Tansy.  
Old field near the state highway; in well-drained sandy soil; rare.  
Persistent after cultivation, but not spreading.
Taraxacum (Haller) Ludwig

1. **Taraxacum officinale** Weber.  
   *Leontodon taraxacum* of House and of B. & B.
   Burned areas, clearings, roadsides, and recently disturbed areas; in moist sandy soil; common.

Tragopogon (Tourn.) L.

1. **Tragopogon pratensis** L.  
   Goat’s beard.
   Clearings and roadsides at the southern end of the Forest; in well-drained sandy soil; scarce.

Zinnia L.

1. **Zinnia elegans** Jacq.  
   Cultivated.  
   Yard of the Arbutus Camp; in moist sandy soil; not spreading.
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ADDENDA

The following species are additions to the Annotated List which were collected on the Forest during the summer of 1940. These collections have been compared with herbarium material at the University of Minnesota.

1. **Epilobium palustre** L.  
   Marsh willow-herb.  
   Bog one-fourth mile south of Wolf Pond; in wet sphagnum; rare.  
P. 316, after L. 17.

2. **Hieracium florentinum** All.  
   King devil.  
   Wooded slopes near the ranger station; in well-drained sandy soil; occasional.  
P. 340, after L. 23.

3. **Hieracium murorum** L.  
   Golden lungwort.  
   Yard of the Arbutus camp; in sandy soil; rare.  
P. 340, after L. 25.

4. **Lilium** (Tourn.) L.  
   Tiger lily.  
   Clearing near the state highway; in sandy soil; rare. Escaped from cultivation, but not spreading.  
P. 280, after L. 4.

5. **Potamogeton gramineus** L. var. *graminifolius* Fries.  
   Various-leaved pondweed.  
   *Potamogeton heterophyllus* of B. & B. and of Gray.  
   Aquatic of Deer Lake and Rich Lake in 0.5-1 m. of water; rooted in muck or sand; scarce.  
P. 257, bottom.

6. **Silene noctiflora** L.  
   Night-flowering catchfly.  
   Clearings; in well-drained sandy soil; rare.  
P. 293, after L. 7.

7. **Sparganium minimum** Fries.  
   Small bur-reed.  
   Shore of Arbutus Lake; in wet muck; rare.  
P. 257, after L. 19.

8. **Spiranthes romanzzoffiana** Cham.  
   Hooded ladies’ tresses.  
   *Ibidium romanzzoffianum* of House.  
   *Ibidium strictum* of B. & B.  
   Bog south of Wolf Pond; in wet sphagnum; rare.  
P. 285, after bottom.
Vallisneria (Michx.) L.

9. **Vallisneria americana** Michx.  
   *Vallisneria spiralis* of Gray, of House, and of B. & B.  
   Aquatic in 0.3-2.5 m. of water in lakes Rich, Arbutus, Catlin, and Deer; in sand or muck; common.  
   P. 259, after L. 17.

10. **Zea mays** L.  
   **Corn.**  
   Arbutus camp; in well-drained sandy soil; rare. The few plants of this species present on the Forest have grown from seed lost from the Station's bait supply. Most species of which the seed or fruit is used for bait or for wildlife feeding may be expected to be found growing on the Forest.  
   P. 266, after L. 30.
PART V. A PRELIMINARY LIST OF THE LICHENS OF THE HUNTINGTON FOREST

By

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INTRODUCTION

Since Spiker ('33, pp. 343-370) has noted the use of lichens as food for deer in other parts of the Adirondacks, it may be assumed that the deer on the Archer and Anna Huntington Wildlife Forest Station (hereafter termed the Huntington Forest or the Forest) at Newcomb eat them during extreme conditions when other plant food is not readily available. The staff of the Roosevelt Wildlife Forest Experiment Station have no positive records of this, however, as work has not yet been done on this phase of the food problem.

The Forest is representative of a very large part of the Adirondacks with similar range of elevation and relief. There is a great variety of habitats, such as burned-over areas in which sufficient time has elapsed to allow the lichens to have become established, lake shores, open swampy areas, open talus slopes, and under the canopy of forest trees. The variety in habitats is further increased by a variation of about 1100 feet in elevation on the Forest.

During August, 1934, and for about two weeks in August, 1936, the writer collected lichens on the Forest, principally on the talus slope on the west side of Panther Mountain, on the burn near the northeast shore of Catlin Lake, and in the swamp area at the outlet of Deer Pond. The collecting was directed specifically toward securing specimens of Lecideae, consequently collections of species in other genera were less complete. The list, therefore, is incomplete, and the distribution notes (except for Lecidea) are based on the writer's records for the Adirondacks as a whole.

The annotated list of 207 species and varieties given below represents, for the most part, species that would be expected to occur on the area. The following, however, are worthy of special note: Lecidea nemoralis and L. suberratica were described from material collected on the Huntington Forest and are not known to occur else-
where; Bacidia subacerina, Chaenothecopsis pusiola, Calicium asikkalense, Calicium subpusillum, and Calicium Floerkei var. parasitaster are known from no other North American station; in North America Lecidea delincta, L. hypopta, L. phylliscina, and L. plebeja are known from the Newcomb and other Adirondack stations only, in North America; and Hydrothyria venosa, while not a rare lichen, has been collected by the writer in the Adirondacks only from the Newcomb station.

Full descriptions of almost all of the species and illustrations of some of them can be found in the works of Fink ('35) and Lowe ('39). The nomenclature used for the genus Lecidea is that of Lowe ('39), and for nearly all of the remaining species that of Fink ('35). A few species not treated by Fink follow the nomenclature of Zahlbruckner ('34). A number of collections still remain undetermined, and it is hoped that these, and collections of additional species, may be reported at some future time.

Acknowledgments are due Miss Joyce Hedrick (Mrs. Volney H. Jones) for the determinations of certain species as indicated in the list.

The field work and the subsequent preparation of this report has been done under the supervision of the Department of Forest Botany and Pathology in cooperation with, and according to the established policy of, the Roosevelt Wildlife Forest Experiment Station. This policy provides a means of utilizing specialists in allied fields of wildlife management as the occasion demands.

**ANNOTATED LIST**

**PYRENOCARPEAE**

*Pyrenulales*

**VERRUCARIACEAE**

*Staurothele clopima* (Wahl.) T. Fries. On rock along Round Pond; infrequent.

*Staurothele umbrina* (Ach.) Tuck. On rock in brook bed; infrequent.

*Thelidium pyrenophorum* (Ach.) Mudd. On rock in brook bed: infrequent.

*Verrucaria aethiobola* Wahl. On rock in brook bed; infrequent.


*Verrucaria nigrescens* Pers. On rocks in woods and on open slopes; frequent.
Verrucaria rupestris Schrad. On rocks on open slope; infrequent.
Verrucaria striatula Wahl. On rocks in brook bed; infrequent.
Verrucaria viridula (Schrad.) Ach. On rocks on open slope; occasional.

DERMATOCARPACEAE

Dermatocarpon aquaticum (Weis.) Zahlbr. On rock in brook bed; frequent.
Dermatocarpon miniatum (L.) Mann. On rock in swamp; frequent.

GYMNOCARPEAE

Caliciaceae

Caliciella arenaria (Hampe) Fink. On the thallus of Lecidea lucida; abundant locally.
Calicium abietinum Pers. On decorticate coniferous wood; frequent.
Calicium asikkalense Vainio. On bark and decorticate wood in swamp; rare; not previously reported from North America.
Calicium Floerkei Zahlbr. var. parasitaster Bagl. & Carest. On the squamules of the primary thallus of Cladonia incrassata Floerke; rare. This variety has been reported in a previous paper (Lowe, '38).
Calicium populneum De Brond. On bark in swamp; rare, reported elsewhere in the United States from Illinois and California.
Calicium pusillum (Ach.) Floerke. On decorticate coniferous wood; infrequent. This determination is somewhat uncertain.
Calicium roscidum Floerke var. trabinellum (Ach.) Schaer. On decorticate coniferous wood; infrequent.
Calicium subpusillum Vainio. On decorticate coniferous wood; occasional; not previously reported from North America.
Calicium trachelinum Ach. On decorticate coniferous wood; infrequent.
Chaenotheca brunneola (Ach.) Müll. Arg. On decorticate coniferous wood; abundant.
Chaenotheca chrysocephala (Turn.) T. Fries. On coniferous bark; frequent.
Chaenotheca melanophaea (Ach.) Zwackh. On old wood; rare. This species has been reported by Lowe ('38).
Chaenothecopsis pusiola (Ach.) Vainio. On decorticate coniferous wood on an open slope; rare; not known elsewhere in North America. The spores of this specimen measured 4.5 x 1.5-2.5 μ, smaller than as described by Vainio (Act. Soc. Fauna Flora Fennica 57, n.1, p. 70. 1927), but agreeing better with Rehm's measurements (in Rabenhorst, Kryptogamen Flora, Ed. 2. Vol. 3. p. 408. 1896). The stipes are often pale and transparent, as described by Rehm.

Coniocybe furfuracea (L.) Ach. On decorticate wood and over soil on upturned roots; frequent.

Mycocalicium parietinum (Ach.) Vainio. On decorticate coniferous wood; abundant.

Stenocybe major Xyl. On bark of balsam; occasional but very inconspicuous and easily overlooked.

**Hysteriales**

**ARTHONIACEAE**

Arthonia convexella Xyl. On hardwood bark; infrequent. Determination by Miss Hedrick by comparison with material in the Herbarium of the University of Michigan.

Arthonia lapidicola (Tayl.) Branth & Rostr. On rock in open places; infrequent.

Arthonia lurida Ach. On hardwood bark in woods; frequent.

Arthonia radiata (Pers.) Ach. On hardwood bark in woods; frequent.

Arthothelium taediosum (Xyl.) Müll. Arg. On hardwood bark in swamp; infrequent.

**GRAPHIDACEAE**

Graphis eulectra Tuck. On spruce bark; infrequent.

Graphis scripta (L.) Ach. var. topographica (Willd.) Zahlbr. On bark; frequent.

**Lecanorales**

**DIPLOSCHISTACEAE**

Conotrema urceolatum (Ach.) Tuck. On bark in woods; common.

Urceolaria scruposa (Schreb.) Ach. On rocks on open slope; common.
GYALECTACEAE

Microphiale diluta (Pers.) Zahlbr. On old wood and soil; frequent.
Microphiale lutea (Dicks.) Zahlbr. On old wood and on soil; frequent.

EPHEBACEAE

Ephebe lanata (L.) Vainio. On rock in brook bed; rare.
Ephebe solida Born. On rock in brook bed; rare.

COLLEMACEAE

Leptogium tenuissimum (Dicks.) E. Fries. On mossy log; rare.
Leptogium tremelloides (L.) S. F. Gray. At mossy bases of trees; common.

PAXNARIACEAE

Hydrothyria venosa Russell. On wet rocks in brook bed; abundant here but not known to the writer from any other station in the Adirondacks.
Parmeliella lepidiota (Sommerf.) Vainio. On rock in woods; infrequent.
Pannaria leucosticta Tuck. On rocks in open places; frequent.
Placynthium flabellosum (Tuck.) Zahlbr. On rocks in brook bed; infrequent. This species has been reported by Lowe (‘38).

STICTACEAE

Sticta amplissima (Scop.) Rabh. On bark; common.

PELTIGERACEAE

Nephroma helveticum Ach. On thin soil over rock; frequent.
Nephroma laevigatum Ach. On thin soil over rocks; frequent.
Nephroma parile Ach. Over moss in woods; frequent.
Peltigera canina (L.) Willd. Over mosses in woods and on soil in burned-over areas; common.
Peltigera aphthosa (L.) Willd. On soil in woods; frequent.
Peltigera polydactyla (Neck.) Hoffm. On soil in woods; frequent.
Peltigera sorediata (Schaer.) Fink. On soil in burned-over area; infrequent.
Bacidia chlorantha (Tuck.) Fink. On bark of hardwood trees; common.

Bacidia fuscorubella (Hoffm.) Bausch. On hardwood bark; frequent.

Bacidia incompta (Borr.) Anzi. On coniferous bark in woods; infrequent. Determination by Miss Hedrick.

Bacidia inundata (E. Fries) Koerb. On rock and on decorticate wood along brooks; frequent.

Bacidia Schweinitzii (Tuck.) Schneid. On hardwood bark; common.

Bacidia subacerina Vainio. On hardwood bark; rare. Determination made from literature references only; if correctly determined new to North America.


Bilimbia melaena (Nyl.) Arn. On old or on carbonized wood; common.

Bilimbia Naegelii (Hepp.) Kremplh. On decorticate wood; frequent.

Bilimbia trisepta (Naeg.) Arn. On decorticate wood; rare.

Catillaria globulosa (Floerke) T. Fries. On hardwood bark in swamp; rare. Determination by Miss Hedrick.

Catillaria Laureri Hepp. On hardwood bark in woods; rare. Determination by Miss Hedrick on comparison with material in the Herbarium of the University of Michigan.

Catillaria prasina (E. Fries) T. Fries. On rotten wood; occasional. Determination by Miss Hedrick.

Lecidea Adirondackii H. Magn. On the underside of rocks on talus slopes; common.

Lecidea arcuatula (Arn.) Hue. On rocks; rare.

Lecidea auriculata T. Fries. On rocks; rare.

Lecidea Berengeriana (Mass.) T. Fries. On moss and soil; occasional.

Lecidea botryosa (E. Fries) T. Fries. On old and especially on charred wood; common.


Lecidea cinereoatra Ach. On rocks; common.

Lecidea cladonioides (E. Fries) T. Fries. On old or more often on carbonized wood; common.

Lecidea coarctata (J. E. Smith) Nyl. On rock; common.
Lecidea crustulata (Ach.) Sprengl. On rock; uncommon.
Lecidea delincta Nyl. On rocks; occasional.
Lecidea enteromorpha (Flot.) Vain. On rocks; rare.
Lecidea erratica Koerb. On rocks; infrequent.
Lecidea erratica Koerb. var. planetica (Tuck.) Lowe. On rocks; infrequent.
Lecidea erratica Koerb. var. paraclitica (Nyl.) Lowe. On decorticate wood; rare.
Lecidea euphorea (Floerke) Nyl. On wood and bark; occasional.
Lecidea flexuosa (E. Fries) Nyl. On decorticate or charred wood, or rarely on bark; occasional.
Lecidea Friesii Ach. On old and especially on burnt wood; frequent.
Lecidea fusca (Schaer.) T. Fries var. sanguineoatra (Nyl.) T. Fries. On moss over bark; rare.
Lecidea granulosa (Ehrh.) Ach. On soil, decorticate wood, and bark; common.
Lecidea hypopta Ach. On decorticate wood; rare.
Lecidea lucida Ach. On rocks or rarely on bark and old wood; common.
Lecidea melancheima Tuck. On decorticate wood or rarely on bark; frequent.
Lecidea myriocarpoides Nyl. On decorticate wood; rare.
Lecidea nemoralis Lowe. On rocks; rare, and known only from this type locality.
Lecidea phylliscina Nyl. On rocks; rare.
Lecidea plebeja Nyl. On old wood; occasional.
Lecidea scalaris Ach. On old and especially on carbonized wood; common.
Lecidea steriza (Ach.) Vain. On rocks; common.
Lecidea stigmatea Ach. On rocks; rare.
Lecidea suberratica Lowe. On rock; rare, type locality and unknown elsewhere.
Lecidea uliginosa (E. Fries) Nyl. On soil and old wood; common.
Lecidea vernalis (L.) Ach. On moss and bark; common.
Lecidea viridescens (Schrad.) Ach. On rotten wood; common.
Lecidea virginiensis Calk. & Nyl. On rocks; infrequent.
Lopadium pezizoidaeum (Ach.) Koerb. On bark; common.
Mycoblastus sanguinarius (L.) Norm. On decorticate wood and bark; frequent.
Rhizocarpon disporum (Naeg.) Müll. Arg. On rocks in open places; common.
Rhizocarpon petraeum (Wulf.) Mass. On rocks in open places; common.
Rhizocarpon grande (Floerke) Arn. On rocks in open places; common.
Rhizocarpon obscuratum (Ach.) Mass. On rocks in open places; common.
Rhizocarpon Oederi (Web.) Koerb. On rocks; rare. This species has been reported by Lowe (38).
Rhizocarpon plicatile (Leight.) A. L. Smith. On rocks on open slopes; frequent. This species has been reported by Lowe (38).

CLADONIACEAE

Baeomyces rufus (Huds.) Rebent. On rock in woods; frequent.
Cladonia alpestris (L.) Rabenh. On soil in open places; frequent.
Cladonia bacillaris (Del.) Nyl. On soil; common.
Cladonia botrytes (Hag.) Willd. On bark of old stumps and logs; infrequent.
Cladonia coccifera (L.) Willd. var. pleurota (Floerke) Schaer. On rotten log along lake shore; frequent.
Cladonia cornuta (L.) Schaer. On soil in burned-over land; frequent.
Cladonia crispata (Ach.) Flot. On old wood and soil; common.
Cladonia cristatella Tuck. On soil in open areas; common.
Cladonia deformis (L.) Hoffm. On soil in woods and in burned-over land; frequent.
Cladonia delicata (Ehrh.) Floerke. On rotten decorticate log in swamp; infrequent.
Cladonia fimbriata (L.) E. Fries var. coniocraea (Floerke) Vainio. On soil; common.
Cladonia fimbriata (L.) E. Fries var. nemoxyana (Ach.) Vainio. On old logs and soil; infrequent.
Cladonia fimbriata (L.) E. Fries var. ochrochlorea (Floerke) Vainio. On rotten wood; infrequent.
Cladonia fimbriata (L.) E. Fries var. radiata (Schreb.) E. Fries. On soil in burned-over area; rare.
Cladonia fimbriata (L.) E. Fries var. subulata (L.) Vainio. On soil over rock on open slope; rare.
Cladonia Floerkeaana (E. Fries) Sommerf. On soil and old wood; common.
Cladonia furcata (Huds.) Schrad. On soil in burned-over area; common.

Cladonia furcata (Huds.) Schrad. var. pinnata (Floerke)
Vainio. On thin soil; common.

Cladonia furcata (Huds.) Schrad. var. racemosa (Hoffm.)
Floerke. On soil; common.

Cladonia furcata (Huds.) Schrad. var. scabriuscula (Del.)
Vainio. On soil; frequent.

Cladonia gracilis (L.) Willd. var. chordalis (Floerke) Schäer.
On soil; frequent.

Cladonia gracilis (L.) Willd. var. dilacerata Floerke. On mossy soil; common.

Cladonia incrassata Floerke. On rotten log in woods; rare. This plant is described under the name C. cristatella var. paludicola Tuck. by Fink ('35), but the synonymy was published by Dr. A. W. Evans in Rhodora 34:129. 1932.

Cladonia mitrula Tuck. On old stump in burn; infrequent.

Cladonia pityrea (Floerke) E. Fries. On soil and rotten wood in open places; common.

Cladonia pyxidata (L.) Hoffm. On soil; common.

Cladonia rangiferina (L.) Web. On soil in open places; common.

Cladonia squamosa (Scop.) Hoffm. On soil; common.

Cladonia squamosa (Scop.) Hoffm. var. denticollis (Hoffm.)
Floerke. On soil; frequent.

Cladonia sylvatica (L.) Hoffm. On soil in open places and in woods; common.

Cladonia verticillata Hoffm. On soil; frequent.

Stereocaulon coralloides E. Fries. On rock in open places; rare.

Stereocaulon denudatum Floerke. On rock; rare.

Stereocaulon paschale (L.) Hoffm. On thin soil over rocks; common.

Stereocaulon pileatum Ach. On rock; infrequent.

Stereocaulon tomentosum E. Fries. On thin soil in beaver clearing; common.

GYROPHORACEAE

Gyrophora vella (L.) Ach. On rocks on talus slide; infrequent.

ACAROSPORACEAE

Acarospora fuscata (Schrad.) Arn. On rocks in open places; frequent.
Biatorella clavus (Lam. & DC.) T. Fries. On rock in open places; common.
Biatorella simplex (Dav.) Branth & Rostr. On rocks in open places; common.

PERTUSARIACEAE

Pertusaria multipuncta (Turn.) Nyl. On bark; common.
Pertusaria pertusa (L.) Tuck. On bark; common.
Pertusaria velata (Turn.) Nyl. On bark; frequent.

LECANORACEAE

Haematomma cismonicum Belts. On bark of conifers; infrequent.
Icamadophila ericetorum (L.) Zahlbr. On rotten wood; common.
Lecanora cinerea (L.) Röhling. On exposed rocks; common.
Lecanora epulotica (Ach.) Leighton. On rocks along brook; rare.
Lecanora gibbosa (Ach.) Nyl. On exposed rocks; common.
Lecanora Hageni Ach. On exposed rocks; infrequent.
Lecanora pallida (Schreb.) Rabh. On bark in swamp; frequent.
Lecanora polytropa (Ehrh.) Rabh. On exposed rocks; infrequent.
Lecanora rubina (Vill.) Ach. On exposed rocks; infrequent.
Lecanora subfuscus (L.) Ach. var. campestris Rabh. On bark, rock, and decorticate wood; frequent.
Lecanora subfuscus (L.) Ach. var. coilocarpa Ach. On bark; frequent.
Lecanora varia (Hoffm.) Ach. On exposed rocks; common.
Ochrolechia pallescens (L.) Mass. On bark in swamp; infrequent.

PARMELIACEAE

Cetraria fahlunensis (L.) Schäer. On thin soil over rock in open places; infrequent.
Cetraria lacunosa Ach. On twigs; common.
Cetraria Oakesiana Tuck. On bark; common.
Cetraria saepincola (Ehrh.) Ach. On bark on top of Goodnow Mountain; infrequent.
Parmelia caperata (L.) Ach. On bark; common.
Parmelia conspersa (Ehrh.) Ach. On rocks in open places; common.
Parmelia olivacea (L.) Ach. On bark; common.
Parmelia perforata (Wulf.) Ach. On bark; infrequent.
Parmelia perlata (L.) Ach. On bark and over thin soil; frequent.
Parmelia pertusa (Schrank.) Schae. On bark; common locally.
Parmelia physodes (L.) Ach. On bark; common.
Parmelia quercina (Willd.) Vainio. On hardwood bark; frequent.
Parmelia rudecta Ach. On bark; frequent.
Parmelia saxatilis (L.) Ach. On bark; common.
Parmelia sorediata (Ach.) Rohling. On exposed rocks; infrequent.
Parmeliopsis aleurites (Ach.) Nyl. On decorticate wood; frequent.
Parmeliopsis ambigua (Wulf.) Nyl. On decorticate wood; frequent.

USNEACEAE

Evernia ceratea (Ach.) Zopf. var. Cladonia (Tuck.) Fink. On branches; common at higher elevations.

Evernia prunastri (L.) Ach. On trees; common. Dr. A. H. Magnusson of Göteborg, Sweden, has identified part of the writer's material as E. mesomorpha Nyl. Although T. Fries, Lich. Scand., p. 32, placed the last in synonymy with E. prunastri, the species now appears to be recognized in Europe under the name E. mesomorpha or as E. thannodes (Fw.) Arn., but the basis for separation is unknown to the writer.

Ramalina calicaris (L.) Röhl. On bark; frequent.
Ramalina farinacea (L.) Ach. On bark in exposed places; infrequent.
Ramalina pollinaria (Westr.) Ach. On hardwood bark; infrequent.

Usnea barbata (L.) Wigg. On branches; common.
Usnea florida (L.) Web. On branches; common.
Usnea plicata (L.) Wigg. On branches; common.

CALOPLACACEAE

Caloplaca aurantiaca (Lightf.) T. Fries. On exposed rocks; infrequent.
Caloplaca elegans (Link) T. Fries. On bark in burned-over area; common.

BUELLIACEAE

Buellia badioatra (Floerke) Koerb. On rocks; frequent.
Buellia colludens (Nyl.) Arn. On rocks in open places; common.
Buellia parasema (Ach.) De Not. On bark; common.
Buellia stigmata Tuck. On exposed rock; infrequent.
Buellia Schaereri De Not. On decorticate wood; infrequent.
Rinodina sophodes (Ach.) Mass. On rock; common.

PHYSCIACEAE

Anaptychia aquila (Ach.) Mass. On trees; occasional.
Anaptychia speciosa (Wulf.) Mass. On trees; frequent locally.
Physcia astroidea (Clem.) Nyl. On exposed rock; uncommon.
Physcia caesia (Hoffm.) Hampe. On rock and on bark; infrequent.
Physcia endochrysea (Hampe) Nyl. On hardwood bark in woods; common.
Physcia pulverulenta (Schreb.) Nyl. On bark; frequent.
Physcia stellaris (L.) Nyl. On mossy soil and bark; common.
Physcia virella (Ach.) Flagey. On bark; common.
Pyxine sorediata (Ach.) E. Fries. On bark; infrequent.

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PART VI. A PRELIMINARY LIST OF FUNGI FROM THE HUNTINGTON FOREST

By

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Associate Curator, University of Michigan Herbarium

The following report on the mycological flora of the Huntington Forest is based on studies conducted by the writer during August, 1934. The most intensive collecting was done near the Catlin Lake headquarters in the area between Chase Brook and Corner Pond, but both shores of Catlin Lake were carefully surveyed. The shores of Arbutus Lake and the area between Long Pond and Arbutus Lake were studied almost as intensively as the area near Corner Pond. Likewise collections were made on trips to Deer Lake, and to the slopes of Catlin and Panther mountains.

The weather had been dry most of July and there was not enough precipitation during August to cause fleshy fungi to fruit in any quantity. Because of the dry weather, agaric collecting was limited to three types of habitat—moist decaying logs, bogs and marshes, and moist areas along streams. The latter were very favorable habitats for Discomycetes. Due to the limited nature of the fungous flora during this period, the following list is to be regarded as strictly preliminary. Collecting was limited to Discomycetes, certain of the Hypocreales, and especially to the Agaricaceae, because of individual interest. The following list of agarics, however, is not at all representative either as to genera or species of the flora of the tract. For this reason all collecting data have been omitted.

Certain of the collections cannot be identified until additional material is available as they are scanty and very likely atypical.

Most of the fungi in the following list of 118 species are the ones usually encountered during a dry season, but there are several interesting finds, among them lonomidotus irregularis and Cordyceps stylophora. Naucoria Myosotis was one of the most outstanding agarics collected. It was abundant in a small boggy area between Arbutus Lake and Long Pond during most of August, although it appears to be very rare in North America. The only good collection of it the writer has made is the one upon which this report is based. Another interesting find was made in the vicinity of Corner Pond. It was a previously undescribed species
of Cordyceps and has since been published under the name \textit{C. viperina} Mains in Mycologia 29: 674–677. 1937.

The nomenclature followed for the agarics is essentially that of Kauffman and Peck, for the operculate Discomycetes that of Seaver, and for the inoperculate Discomycetes that of Rehm.

Acknowledgments are due Prof. E. B. Mains for determination of the species of Cordyceps and to Dr. B. B. Kanouse for the Discomycetes. A complete set of the collections has been deposited in the Herbarium of the University of Michigan and a partial duplicate set in the Herbarium of the New York State College of Forestry at Syracuse University.

**ASCOMYCETES**

**DISCOMYCETES**

\begin{itemize}
  \item Belonium biatorinum Rehm
  \item Catinella nigro-olivacea (L.v. S.) Durand
  \item Dasycyphella cassandrae Trans.
  \item Helotium albidum (Rob.) Pat. Fr.
  \item Helotium citrinum (Hedw.) Fr.
  \item Helotium triste Sacc.
  \item Helvella elastica Bull.
  \item Helvella mitra L.
  \item Helvella infula Schaeff.
  \item Hyaloscypha minutella Boud.
  \item Ionomidotus irregularis (L.v. S.) Durand
  \item Leotia chlorcephala (Scop.) Pers.
  \item Leotia lubrica Schw.
  \item Mollisia benesauda (Tul.) Phill.
  \item Mollisia caespiticia Karst.
  \item Mollisia melaleuca (Fr.) Sacc.
  \item Ombrophila umbonata Karst.
  \item Orbilia botulispora v. Höh.
  \item Patella albida (Schaeff.) Seaver
  \item Patella albocordata (B. & C.) Seaver
  \item Patella lusatiae (Cke.) Seaver
  \item Patella scutella (L.) Morgan
  \item Patella setosa (Nees) Seaver
\end{itemize}

**PYRENOMYCETES**

\begin{itemize}
  \item Cordyceps militaris Link.
  \item Cordyceps vipera Mains
    \textit{(type collected on Huntington Forest)}
  \item Cordyceps stylophora Pk.
\end{itemize}

**BASIDIOMYCETES**

**THELEPHORACEAE**

\begin{itemize}
  \item Craterellus cornucopioides Fr.
\end{itemize}
IVildlife of the Huntington Wildlife Station

HYDNACEAE

Hydnum caput-ursi Fr.
Hydnum coralloides Scop.

Hydnum laciniatum Leers.
Hydnum septentrionale Fr.

BOLETACEAE

Boletus felleus Fr.

Boletinus pictusPk.

AGARICACEAE

Agaricus echinatus Fr.
Amanita flavoconia Atk.
Amanita verna (Fr.) QuéI.
Amanitopsis vaginata var. fulva Sacc.
Cantharellus aurantiacus Fr.
Cantharellus infundibuliformis Fr.
Clitocybe cyathiformis f. americana Kauff.
Clitocybe ectypoidesPk.
Clitocybe piceina Pk.
Collybia abundans Pk.
Collybia confluens (Fr.) Quél.
Collybia dryophila (Fr.) Quél.
Collybia exsculpta (Fr.) Gillet
Collybia maculata (Fr.) Quél.
Collybia palustris (Pk.) Smith
Collybia platyphylla (Fr.) Quél.
Collybia radicata (Fr.) Quél.
Collybia radicata var. furfuracea Pk.
Cortinarius americanus Smith
Cortinarius armillatus Fr.
Cortinarius delibutus Fr.
Cortinarius evernius Fr.
Cortinarius cinnamomeus Fr.
Cortinarius lacorum Smith
Cortinarius montanus Kauff.
Crepidotus applanatus (Fr.) Karst.

Eccilia nivea Pk.
Entoloma cuspidatum Pk.
Entoloma salmineum Pk.
Galerina sphagnorum (Fr.) Kühner
Hygrophorus Cantharellus Schw.
Hygrophorus borealis Pk.
Hypholoma hirtosquamulosum Pk.
Hypholoma hydrophyllum (Fr.) Quél.
Hypholoma sublateritium (Fr.) Quél.
Inocybe fastigiata (Fr.) Quél.
Inocybe hystrix (Fr.) Karst.
Inocybe subochracea Pk.
Laccaria laccata (Fr.) Berk. & Br.
Lactarius deceptivus Pk.
Lactarius deliciosus Fr.
Lactarius fuliginosus Fr.
Lactarius griseus Pk.
Lactarius helvus Fr.
Lactarius lynyotus Fr.
Lactarius piperatus Fr.
Lactarius trivialis Fr.
Lactarius uvidus Fr.
Lactarius vellerius Fr.
Lentinus cochleatus Fr.
Lentinus vulpinus Fr.
Marasmius foetidus Fr.
Mycena haematopoda (Fr.) Quél.
Mycena leaiana (Berk.) Sacc.
Mycena pelianthina (Fr.) Quél.
Mycena radicatella Pk.
Naucoria bellula Pk.
Naucoria firma Pk.
Naucoria Myosotis (Fr.) Quél.
Naucoria serrulata Murr.
Nolanea dysthales (Pk.) Murr.
Omphalia campanella (Fr.) Quél.
Omphalia chrysophylla (Fr.) Gillet
Omphalia Gerardiana Pk.
Panus stipticus Fr.
Pholiota acericola Pk.
Pholiota albocrenulata Pk.
Pholiota caperata Gillet
Pholiota erinacella Pk.
Pholiota flammans (Fr.) Quél.
Pholiota intermedia Smith
Pholiota squarrosoides Pk.
Pleurotus ostreatus (Fr.) Quél.
Pluteus admirabilis Pk.
Pluteus cervinus (Fr.) Quél.
Pluteus chrysophaeus (Fr.) Quél.
Pluteus granularis Pk.
Pluteus longistriatus Atk.
Pluteus tomentosulus Pk.
Psilocybe squalidella var. macrospora Pk.
Russula bifida (Bull.) Schrot.
Russula rubrotincta Burl.
Russula variata Bann. & Peck.
Stropharia depilata (Fr.) Sacc.
Stropharia psathyroides Lange
ANNALS


1. The Ecology of Trout Streams in Yellowstone Park................. Richard A. Muttkowski
2. The Food of Trout Stream Insects in Yellowstone Park............. Richard A. Muttkowski and Gilbert M. Smith

1. Ornithology of the Oneida Lake Region; With Reference to the Late Spring and Summer Seasons.................. Dayton Stoner


2. Trichodina renicola (Mueller, 1931), a Ciliate Parasite of the Urinary Bladder of Esox niger.................. Justus F. Mueller

1. Parasites of Oneida Lake Fishes.
   Part 3. A Biological and Ecological Survey of the Worm Parasites. H. J. Van Cleave and Justus F. Mueller
   Part 4. Additional Notes on Parasites of Oneida Lake Fishes, including Descriptions of New Species....Justus F. Mueller

1. Studies on Some of the Small Mammals of Central New York........ M. T. Townsend

1. Studies on the Bank Swallow, Riparia riparia riparia (Linnaeus)....... Dayton Stoner