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Interesting Plant Collections from Somerset County, New Jersey

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The famous and picturesque Washington Valley is situated between the so-called First and Second ranges of the Watchung Mountains in Somerset Co., N.J. It was through this valley that George Washington passed in his memorable retreat through New Jersey, and many spots rich in historic associations—some marked by official bronze tablets—are still pointed out to the visitor by local citizens.

From a botanical standpoint this valley is extremely interesting, being exceptionally rich in species of both flowering and flowerless plants. Since Somerset County has never been thoroughly botanized I was asked to collect in this valley last summer (1930) so as to make up for this deficiency in the Local Herbarium of the New York Botanical Garden. While engaged in this work a number of noteworthy collections were made and a series of very interesting observations which are perhaps worth recording.

In one dark and shady evergreen grove on the slope of the Second Mountain, a grove which had been set out here on this mountainside twenty-five or more years ago by my grandfather and grandmother, who were among the earliest settlers in Washington Valley, I located an extensive colony of over five hundred plants of the Pink Ladyslipper or Moccasin-flower (*Cypripedium acaule*)¹ This colony had its beginning here some fifteen years ago, after the evergreens had become large enough to produce a dense shade and a thick carpet of needles over the rich forest floor, and then a few plants were noticed. Every succeeding year has seen the colony spreading in area and increasing in number of individual members, until now the sight of over five hundred of these glorious pink orchids in bloom at once every spring is one never to be forgotten! The spot is seldom disturbed

¹ Specimens of the various plants mentioned in this article have been deposited in the Local Herbarium of the New York Botanical Garden.

by vandals, and although forest fires have swept by a number of times, the progress of the colony has not been checked. Nowhere else in the surrounding deciduous woods is there a colony comparable to this. It is an excellent example of how a species will flourish and spread if it somehow happens to find a suitable environment.

The Cardinal-flower (*Lobelia cardinalis*) was found along a brook slightly over the crest of the Second Mountain and in company with it a number of plants of Green Hellebore (*Veratrum viride*). Lousewort (*Pedicularis canadensis*) is abundant in several localities, and the quaint saprophytic Indian-pipe (*Monotropa uniflora*) is frequently met. The Carrion-flower (*Smilax herbacea*) was found in several places, but the discovery of an extensive grove of large Sweet Gums (*Liquidambar styraciflua*) at the edge of a marshy spot over the crest of the Second Mountain was somewhat of a surprise. Eight or nine species of violets can easily be collected during the course of a few hours' walk in May.

But perhaps the most noteworthy discoveries were in the line of naturalizations and escapes. The Japanese Barberry (*Berberis Thunbergii*) is to be found throughout the woods on both the First and Second Mountains in the vicinity of Watchung and also in thickets between fields and in copses along roadsides. This species has apparently become naturalized extensively through seeds carried from cultivated bushes by birds. In the wild state it seldom attains the proportions seen in cultivated plants, but is conspicuous because of its arching branches, sharp slender spines, and red leaves and fruit in the autumn. The fruits remain on the stems far into the winter and are very attractive to winter birds, especially when the ground is covered with snow. *Elaeagnus umbellata* is similarly to be found in widely scattered localities at the edges of the woods on both sides of the valley, and also in the woods themselves, especially on the eastern slope of the Second Mountain. In a number of fields and pastures this shrub has become so abundant that it is a nuisance and has to be cut down continually. It refuses to be exterminated. In one spot a shrub was found which had attained a height of fully nine feet and a trunk diameter of several inches. With its beautiful silvery-scurfy branchlets, leaves, and flowers this plant produces a striking effect on the landscape when gently swayed by the passing

breezes. The flowers are fragrant and the fruit is relished by birds, which fact, again, probably accounts for its rapid naturalization.

Along the peaceful little brooklet which flows through Washington Valley and later joins the Green Brook which divides Somerset from Union County, were found several large bushes of *Deutzia scabra*. This species is extensively cultivated in the valley and very often persists a long time after cultivation. But the two bushes to which reference is here made were completely wild. They bloom profusely every year, although the stems are not quite as densely flowered nor the bushes as well shaped as in the cultivated plants from which they originated. The same species was observed many years ago by the writer growing in a wild state in a very desolate portion of Center County, Pennsylvania.

Three species of privet were found as escapes. *Ligustrum vulgare* and *L. ovalifolium* were found abundantly persistent after cultivation, with a marked tendency to spread, especially in hedges and along old tumble-down fences and roadsides. *L. ibota*, a very recent addition to the cultivated flora of this region, was found a number of times as a waif along the roadside, often half a mile or more removed from the nearest cultivated plant of the same species. Several plants were likewise found in the woods on the First Mountain. Again, the distribution of this species can be directly traced to winter birds which feed on its fleshy fruits.

One of the most interesting of all these finds, however, was the discovery of the very extensive naturalization of *Azalea japonica* in one section of the valley. Arising apparently from a dozen plants of this species set out twenty years ago in a nearby garden, the species has spread with prodigious rapidity. It is now to be found throughout the fields and meadows, pastures and evergreen woods on both the eastern slope of the Second Mountain and the western slope of the First Mountain, and even in some places extends up into the woods a slight distance on both sides of the valley. It seems to have found its most suitable location, however, in the dry, open, sunny fields and at the very edge of the woods on the western slope of the First Mountain. In May the fields here are resplendent with the gorgeous blooms of this species, which vary from yellow and orange to pink, salmon, and red. The plants do not grow more than about 24 or 30 inches tall and the flowering stems are practically leafless. If vandals can be

restrained from picking the flowers and especially from digging out these plants every spring, it is very probable that in a short time this lovely Japanese species will have spread even farther up and down the valley. It makes a very handsome addition to our naturalized flora.

In one place a considerable colony of Dame's Rocket (*Hesperis matronalis*) was discovered, apparently escaped and naturalized from a garden which had existed near there many years ago, but of which hardly any other traces are at present discernible. *Phlox paniculata* has been found in a great many localities both in the valley itself and along the edges of the woods on both mountains. Half way up the eastern slope of the Second Mountain where the old tumble-down remains of a stone wall are practically the only relics of what used to be an isolated hermitage in the woods, that good old-fashioned favorite, the Periwinkle (*Vinca minor*), has spread and is flourishing, attempting to hide with its dark shiny-green leaves and handsome blue flowers the desolation which lies about it. The Sweet Cherry (*Prunus avium*) and Japanese Honeysuckle (*Lonicera japonica*) are, of course, abundant everywhere.

A strange, typically southern form of *Coreopsis grandiflora* is rapidly spreading through the fields in a number of localities, and a near relative, *C. tinctoria*, is occasionally found escaped on waste ground and trash piles. *Polygonum zuccarinii* has established itself firmly in several spots and is spreading. Its extremely dense and abundant masses of white flowers every summer make it a gorgeous sight. *Spiraea billiardii*, though nowhere in all the valley to be found in cultivation, as far as I am aware, has been discovered along a ditch in one locality, probably as the persistent escape of a very old garden somewhere near by. It is not, however, thriving and the indications seem to be that it will soon be choked out of existence by the coarser native vegetation all around it. The differences in stems, leaves, and flower-clusters between this species and the native *S. tomentosa*, which every year makes a grand display in the moist meadows close by, are very noticeable to the close observer and extremely interesting.

Another very interesting discovery was that of a colony of *Achillea asplenifolia* growing in a moist field alongside of Valley Road. It is quite abundant in this one particular spot and is growing in company with a large colony of *A. millefolium*. No one in

the valley, as far as I have been able to ascertain, has ever had any plants of this species in cultivation or has ever seen any in cultivation in this vicinity. The ray-flowers are a beautiful pink, varying sometimes to lavender or even whitish. The plants are more slender, the inflorescence smaller and not as flattened, and the foliage somewhat different than in *A. millefolium*. The indications seem to point to a mutational origin of the colony from the latter common species. Occasionally plants are found which seem to show intermediate characters, and often the flowers while pink at the beginning of anthesis will fade out to a dirty white later on.

On the crest of the Second Mountain, in a grassy overgrown clearing in the forest, there was discovered an extensive stand of *Robinia viscosa*. The trees are dense—so dense, in fact, that in some places one can only with great difficulty force one's way through—but never attain a height of more than about 6 or 7 feet. Thorns are practically obsolete, and the branchlets and petioles are extremely viscid. In the middle of June the flowers appear and make a gorgeous sight. Although not noticeably fragrant they are of a beautiful pink color. No one in the valley has ever had any of these trees in cultivation and the nearest cultivated tree of this species with which I am acquainted is in North Plainfield—beyond the valley, and a good five miles away. About five years ago another southern species of locust, *R. hispida*, was discovered by the writer in a sandy woods southeast of Mt. Holly in the southern portion of the State, but was never again rediscovered on later trips to that general vicinity.

At the base of an old spruce tree near the long-deserted and overgrown remains of what used to be one of the oldest houses in the valley, was discovered a large colony of *Hieracium murorum*, a European species only recorded from three or four other localities in the United States and never before from New Jersey. The plants bloom profusely during the first week in June and for a considerable time thereafter, making a very handsome appearance in the dense shade beneath the branches of the towering old evergreen. The colony is fully ten feet in diameter and contains over a hundred well-developed plants. The very peculiar shape of the basal leaves is characteristic of the species. The scapes are about 12 inches tall and naked or with but a single leaf. The basal leaves are subcordate or subtruncate and strangely angulate-

dentate. The colony is apparently flourishing in this situation where the dense shade prevents any great competition by other species in the struggle for existence. It does not, however, advance beyond the protecting shade of the evergreen, for immediately outside this area it is replaced by the more common *H. pratense* and *H. aurantiacum*, while in the woods close by are to be found *H. venosum*, *H. paniculatum*, and *H. scabrum*. It is probable that this very rare and interesting little European species will never spread beyond the sheltering confines of the spruce tree under which it in some manner became established and that when the tree dies, as it inevitably must, and the surrounding vegetation overruns the area now too shady for it, another station in America for *Hieracium murorum* will have been wiped out.

The Parsnip (*Pastinaca sativa*) from Europe, and the Tree-of-heaven (*Ailanthus altissima*) from China have become established in a great many localities through the valley and give great "promise" of spreading rapidly. The Devils-walking-stick (*Aralia spinosa*) has escaped in two localities and is becoming naturalized, much to the sorrow of some of the inhabitants thereabouts, for a sudden unexpected encounter with one of these shrubs in the dark can hardly be described as a pleasant experience!

As stated at the outset of this article, Washington Valley is especially rich in native species and also in the more common naturalizations which are so disparagingly termed "weeds" by the local citizens. *Angelica villosa* is abundant and likewise *Ceanothus americanus*, *Cornus paniculata*, and *Myrica carolinensis*. A form of *Rudbeckia hirta* with a deep orange band near the base of each ray-flower, forming an orange circle about the black central cone, is especially beautiful and has been observed regularly by the writer for six consecutive years. Two relatives, *R. triloba* and *R. laciniata*, are found locally in wet ground along the brook, where also the pretty little Monkey-flower (*Mimulus ringens*), the Seedbox (*Ludwigia alternifolia*), and the Lanceleaf Loosestrife (*Steironema lanceolatum*) are to be found in abundance.

A very robust and floriferous form of blackberry was found which is said by Dr. P. A. Rydberg of the New York Botanical Garden to be probably a natural hybrid between *Rubus nigrobaccus* and *R. argutus*. Seven species of milkweed are abundant: *Acerates viridiflora*, *Asclepias syriaca*, *A. purpurascens*, *A. rubra*, *A. pulchra*, *A. quadrifolia*, and *A. tuberosa*. The last-named

species is becoming rather rare because its extremely vivid orange flowers make it greatly desired by passing vandals. Yet several spots were found by the writer where this species is still growing in profusion and makes a most glorious sight to behold. In some places three species of bush-clover were found growing almost side by side—*Lespedeza capitata*, *L. stuvei*, and *L. virginica*.

Along the brook are to be found *Penthorum sedoides*, *Myosotis palustris*, *Isnardia palustris*, *Acorus calamus*, *Iris pseudacorus*, *Chelone glabra*, *Tovara virginiana*, *Agrimonia gryposepala*, *Impatiens biflora*, *Tracaulon sagittatum*, *Epilobium coloratum*, *Sparanium androcladum*, *Alsima subcordatum*, *Hemerocallis fulva*, *Carex crinita*, and in some places *Geum canadense*. In the adjoining moist meadows one finds a most glorious display of *Leptandra virginica*, *Vernonia noveboracensis*, *Eupatorium purpureum*, *E. perfoliatum*, *Senecio aureus*, *Aster novae-angliae*, *A. puniceus*, *Solidago canadensis*, and *S. altissima*, with here and there patches of *Ibidium cernuum*, *Blephariglottis lacera* and *Dasytephana andrewsii*. In the drier and more elevated fields and pastures one finds *Anaphalis margaritacea*, *Solidago juncea*, *Doellingeria umbellata*, *Castilleja coccinea*, *Monarda fistulosa*, *Cynthia virginica*, *Xolisma ligustrina*, *Erigeron pulchellus*, *Pentstemon laevigatus*, *Crotalaria sagittalis*, *Dianthus armeria*, *Parsonsia petiolata*, *Agalinis purpurea*, *Polygala verticillata*, *Sabatia angularis*, *Aster lateriflorus*, *A. ericoides*, *A. laevis*, and *Sarothra gentianoides*. Along roadsides and waste ground there are *Berteroa incana*, *Lepidium campestre*, *Tiniaria scandens*, *T. convolvulus*, *Ranunculus acris*, *R. repens*, *Abutilon avicennae*, *Linaria vulgaris*, *Verbascum thapsus*, *V. blattaria*, and a veritable host of other more common species. In the darker woods one finds *Rosa carolina*, *Lilium philadelphicum*, *Hydrangea arborescens*, *Athyrium filix-foemina*, *Phryma leptostachya*, *Collinsonia canadensis*, *Circaea lutetiana*, *Clematis virginiana*, *Lacinaria spicata*, *Menispermum canadense*, *Eupatorium urticaefolium*, *Anemone cylindrica*, *Hepatica americana*, *Syndesmon thalictroides*, *Sanguinaria canadensis*, *Benzoin aestivale*, *Deringa canadensis*, *Geum strictum*, *Thalesia uniflora*, *Nabalus trifoliolatus*, *Sanicula canadensis*, *S. trifoliata*, *Scutellaria integrifolia*, *S. pilosa*, *Pyrola rotundifolia*, *Mitchella repens*, *Gaultheria procumbens*, *Steironema ciliatum*, *Lysimachia quadrifolia*, *Azalea nudiflora*, *Aster undulatus*, *A. lowrieanus*, *A. cordifolius*, *Solidago caesia*, *S. rugosa*, *S. bicolor*, *Uvularia ses-*

silifolia and a great many others too numerous to mention here. In a number of portions of the woods the Trailing Christmas-green (*Lycopodium complanatum*) is still very abundant, not having been as yet discovered by hunters for Christmas decorations, and in one grassy clearing on the top of the Second Mountain there is a colony of over a hundred Fringed Gentians (*Gentiana crinita*), a view of whose glorious sky-blue flowers is well worth the arduous climb! Nature is indeed bountiful and beautiful in Washington Valley! Would that it were possible to preserve this bounty and beauty for future generations!

NEW YORK BOTANICAL GARDEN



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