

PRACTICAL PLANT PROTECTION.

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In the early days the wildflowers were so abundant and widespread that the destruction of immense numbers was of no consequence, but with the growth of our country, many of the more showy and attractive specimens have been brought to the verge of extinction. A few species have disappeared or are disappearing from purely natural causes, such as the chestnut blight and the pine blister rust, but the greatest enemy of the plants is man. For every flower picked for a bouquet, he destroys thousands by felling the forest, flooding the valleys, draining the swamps, burning the thickets and tearing up the prairie sod to set a whole new race of plants in the place of violet and shooting-star, puccoon and camas-sia, phlox and gentian, sunflower and goldenrod. His cattle trample them, all sorts of animals feed on them, the mower lays countless thousands low, and yet in some way little short of a miracle another year finds them smiling from fence-row and thicket with the same trustful innocence as of yore. Only when he finally stakes out a factory village in the midst of all this loveliness do the native plants give up the struggle.

Such things have to be if our own race is to survive, but we may well object to all unnecessary destruction of our wild plants. The roadmaker has no sooner torn his way through the wilderness than nature sets to work to repair the damage with a cloud of wildflowers. The ugly wounds of plow and scraper are healed with boneset, Joe-Pye-weed, clematis, bittersweet, asters, goldenrod and a host of others. And then back comes the roadmaker to "improve" his work by removing all this loveliness. To him the birds, the wildflowers, the sheltering trees and the wild things that scurry from one thicket to another are not to be compared with a carefully barbered roadside bordered by a neat barbed wire fence. Law-making bodies often encourage him in his efforts to lay waste the countryside by requiring this annual slaughter of wildflowers. Beauty is no excuse for being in the eyes of one who considers himself a practical man. In

my own town some time ago, the question arose as to whether a certain nook about one of the public buildings should be covered with concrete or set with plants, and the care-taker was ordered to do whichever was cheapest!

Of all offenders against good taste in such matters, the railroads are the worst. Though quick to see the advantage of planting the station grounds with beautiful flowers, they are blind to the fact that the selfsame species are doing their best to ornament the whole right of way, and they send out laborers to cut them down. Great clumps of lilies, acres of painted-cups, banks of anemones, swamps of wild hyacinth, clouds of phlox, thickets of laurel, sandy wastes blue with lupine and whole galaxies of sunflowers fall before this untutored savage with a scythe. In late August last year, I travelled more than a thousand miles on our mid-west railroads without seeing a single conspicuous patch of wildflowers on the right of way. The mower had done his worst. The poorer railroads through lack of funds may still allow some of these wildlings to grow, but the better roads mow them down and then dilate on the scenery through which their lines run.

Added to the other destructive agencies must be the vandal out for a day's holiday. He not only devastates the roadsides but invades private property as well. Much of his transgressions must be ascribed to ignorance, for the general public seldom considers flowers of any special value and, indeed, supposes them to grow out of the ground much as wool grows on a sheep and therefore to be picked without compunction. It is to this individual that the increasing rarity of the wildflowers in the vicinity of cities and large towns is mostly due and now that the automobile has widened the range of his activities, no part of the country is safe.

It has often been assumed hastily that the methods of protection applied to birds so successfully need only be extended to the wildflowers to have equally happy results, but a moments reflection will serve to show that the cases are far from identical. Birds, being able to move about from place to place, are rarely if ever in the way. They are peculiarly the property of the whole public and

their collection may well be prohibited entirely. Unlike the flowers, their attractiveness departs with their collection. Moreover, gifted with movement, they can move out of harm's way and are less easily exterminated. Every person induced to cease hunting them gives them that much more chance of surviving, but with plants, so long as there is a single person collecting, all are in danger. It is also easier to make sentiment in favor of bird protection because birds are known to be helpful as well as attractive in other ways. Birds may even be tolerated among our crops and attracted in various ways to frequent and nest in our grounds.

It may be doubted whether it is wise to prevent or even to discourage all picking of flowers. They appeal to the better natures of everybody, and children especially are not content to admire but must acquire as well. Childhood forbidden to gather flowers would be a sorry spectacle. All our traditions are in favor of making use of the flowers. Man wore flowers long before he wore clothes, and he still takes pleasure in decorating his grounds, his residence and himself with them. The use of plants in garlands and coronels has been a custom for so long that this is embodied in the common names that were in existence long before scientific names were thought of. We still make use of a wealth of flowers on all festive occasions, and with them we also attempt to cheer the sick or soften the grief of those whose friends have passed on to more flowery fields. Every city and hamlet has one or more shops wherein are sold flowers only. In view of all this we cannot reasonably ask the lover of flowers to cease picking them entirely. There is a pleasure in the pursuit of any thing that comes only with possession. Does anybody imagine that the hunting and fishing that still go on in settled communities is inspired by the need of food? Far from it. The spoils brought home by the hunter or fisher are simply the trophies that speak of his success. They are concrete evidences of his prowess. And shall we deny the child, the poet and other flower-lovers their evidences of success? Why, even the birds gather flowers! The martins delight to deck their nesting sites with peach-

blossoms, crows are well known to be attracted by bright blossoms, and even the blood-thirsty hawk has been known to ornament his nest with violets.

Fortunately for us, all flowering plants do not need protection. The rough and ugly weeds need not be included in our list since nobody cares to collect them, but there are many fair flowers as well as weeds on the farmer's list of enemies, and many others whose room is regarded as much better than their company. A large number must be exterminated if we and our crops are to live. One may gather as much as he will of buttercups, daisies, toad-flax, evening primroses, bouncing Bet, rudbeckias, goldenrod, wild morning glories and the like without fear of reducing the supply. And there are many others so rampant as to growth, so ubiquitous and persistent, that an annual picking seems almost necessary to keep them within bounds. Of this nature are dandelions, bouncing Bet, the elder and in some localities the wild crab. We may be thankful, also, that there are a few others that are protected by their habitat: species of inaccessible cliffs, remote mountain summits, desert fastnesses and extensive barrens. These are natural sanctuaries in which the embattled plants may persist long after their kind, elsewhere, have given up the contest. No thoughtless band of picknickers are likely to devastate such a region or destroy a whole race at one sweep.

The plants that are in need of special protection are a comparatively small number that have been brought to the attention of the public through some special attractiveness they possess. All the early flowering species are in danger because, coming so close on the heels of winter, they are typical harbingers of the milder season to which we always look forward. The flowers of mid-summer rarely receive like attention. Then there is another class made conspicuous by history, tradition or use, such as the fringed gentian, ginseng, golden seal, pitcher plant, lotus, arbutus, the orchids and the like. Plants which are shallow rooted and easily pulled up, like the phlox, hairbell and the cardinal flower, or those in which the leaves are collected with the flowers, such

as trillium, jack-in-the-pulpit, rue anemone, are especially in need of protection. Unusually fragile species must be considered also, such as the Dutchman's breeches, bloodroot, celandine, and Indian pipe. To these must be added those species whose leaves are the objects sought, among them the laurel, galax, many ferns, and ground pine. Last are those plants whose beauty is so conspicuous as to attract even the matter-of-fact business man—the azalia, the mountain laurel, water lilies, flowering dogwood, redbud and others. All these must be protected or they will disappear speedily.

All right-thinking people are agreed that our wildflowers should be protected, but they are not of one mind as to the best way to accomplish it. The sentimentalist speaks of "the sanctity of plant life" and adjures us to "love the lily and leave it on its stalk" or perchance to "leave the dainty little recluse to fulfill the law of its being." If he (or is it she?) is speaking of properly protected areas, we may not object, but of what advantage is it to leave a much desired specimen to the tender mercies of the marauding urchin or some wandering cow? I still remember with some chagrin inducing a class on a field trip to refrain from gathering a thousand or more pogonia orchids, and later while lunching in a shady spot, seeing the entire thousand go by—a solid mass of wilting blossoms in the clutches of a couple of small boys. So long as there is one individual interested in picking, no plant in unprotected areas is safe.

If we divest the whole question of sentiment and get down to the business methods of protecting plants, we shall discover that adequate laws, justly enforced, is the only solution of the matter. We should bend our energies toward securing a law in every state which will back up the land-owner in protecting his own. And after such a law is secured, we should see that it is enforced. The sale of wildflowers should be forbidden absolutely except by legal permit, and the dealers in such things should be obliged to breed their stock and not dig it up from the wilds. With proper laws, sanctuaries for plants could be established and maintained. Every park, every large estate, the railroad rights of way, the lake shores,

the river banks and many roadsides ought to be made sanctuaries of this kind. The railroads maintain with some truth that the undergrowth must be kept down to prevent disastrous fires, but it is quite possible to indicate the decorative plants and except them from the annual mowing. A number of interesting plants, owing to the special conditions under which they grow, probably must be protected in their present habitats, but this in a majority of cases is entirely feasible. In other cases, rare plants may be removed to protected areas.

Even with adequate laws there is still needed an effort to interest land-owners in protection. Every farm woodlot should become a protected area until the land is needed for something else. It should be fairly easy to induce the farmer to post his entire farm and perhaps to design a special notice for the purpose. When his attention is drawn to the interest the botanist has in some rarity on his lands, he is generally as much in favor of protecting it as anybody.

It is probable that there will always be numerous areas in which flower picking may go on, but even here there is need for education in the selection of the flowers and in the proper manner of gathering. Emphasis should be laid on the fact that a few well-chosen blossoms are far superior to a larger number gathered with less discrimination. The ignorant and unthinking are ever impressed by mere size and reason that if a dozen are good, a hundred are better. It is a failing that all are prone to. Do we not always mention the size of our home town before mentioning its intellectual citizens? Children and adults, too, for that matter, should be taught to select only the fresh and newly-opened specimens, leaving those that are past their prime to reproduce the plants. Merely to instruct the public in the proper way to gather flowers will go a long way toward protecting the landscape from devastation. The true lover of flowers rarely returns from an excursion laden with specimens. The planting of memorial trees and the decorating of our great trans-continental highways with flowering plants should do much to direct the attention of the public toward a right attitude regarding the wild flora.

But in the end we come back to our original thesis; the best and most practical way of protecting the plants is by adequate laws properly enforced. Let us do what we can to hasten the day when this condition shall prevail throughout the land.