

PHOTOGRAPHING FLOWERS AND INSECTS

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Photography has become of great assistance to science; it is no longer an uncertain curious process; its application is unlimited and it reveals many things which the eye might never see. If we combine it with an interest in the natural sciences such as botany, zoology, entomology, etc., we are led into a sphere where wonders never cease. It takes us out into the sunshine of the broad fields beneath the blue sky, to the cool shades of the forest, into the silent places where we may contemplate the beauty and be refreshed. It fairly makes a vagrant of us until the confinement of walls and doors becomes oppressive.

I have found occasion to do much tramping about in quest of wild flowers as photographic subjects. To walk long distances in warm weather with twenty pounds of equipment is not a pleasure except to those who find an interest in the work.

Flowers appeal to me from three points of view as subjects for the camera. First, the landscape effect of infinite numbers; second, a near view showing the plant sufficiently for identification and at the same time showing its typical manner and place of growth; third, a portrait of the flower with sufficient foliage to make a pleasant picture and also indicate the species. The first condition is less difficult to render than the other two. The second condition would seem to be the most important and a photograph in which that condition is not fulfilled loses much of its value as a record of facts. A botanist is interested in a photograph which will answer the question, Where does the plant grow? Plants frequently grow in many

places which are not a *type* location. It is for us to realize this even though it cause much weary search, or we may not record the facts. I may say from experience that sometimes the search is long, though often well rewarded. The prairie region contains many distinctive plants not found naturally elsewhere. Once very abundant they are now hard to find if not already exterminated by the invasion of agriculture. The sun loving flowers are restricted chiefly to the steam or electric right of way or to bits of unused land. The shade loving varieties have been less disturbed, particularly in the river valley, while the aquatics have suffered greatly by the drainage of prairie swales and sloughs.

The third condition is a patient task. The light is frequently from the wrong direction or there is sunshine when we would prefer shade. The wind seems incessant even on days that appear calm; this requires you to keep constant watch of the subject. These disturbing factors make the work much more difficult when large size photographs are made, as exposures of several seconds are necessary. Portraits of many flowers are better made growing; being difficult to revive after wilting, and some will not revive at all. However long the search for a desirable specimen may be or weary the wait to photograph it, you are rewarded by the pleasure of the search, and not the least is the satisfaction of the result.

The prairie rose (*R. Setigera*) is a lover of the open, yet it is often found elsewhere. I like to think of it as growing on the edge of expansive prairies and my search was rewarded with a satisfactory though not ideal example. The woodland phlox (*P. divaricata*) prefers a mixture of sun and shadow. It blossoms early before the shade is too heavy, growing out to the edge where woods meet prairie, rarely if ever beyond. So my search was for a specimen which would be near the edge of the woods. The compass plant (*Silphium laciniatum*) is very individual in habit, growing far above most of its neighbors, and it becomes very effective when silhouetted against a sunset sky. On consideration of each subject we may perhaps find some character of the plant which will portray it in a more individual way.

There is another side of flower life which offers an interesting use for the camera; it is that of the insect visitors. There is a great variety of insects and they come for many purposes; some for pollen, some for nectar, some to eat the flower itself, others to lie in wait to commit murder. Nature often calls with a double purpose when she beckons with vivid color or far reaching perfume, as many flowers must be pollinated by the insects. A well known example is genus *Asclepias*, known as milkweed. Some varieties prove to be an insect trap because of the peculiar mechanism of the flower. A common milkweed known as *Asclepias syriaca* has been selected because it seems to catch more insects than the other species. First it has an alluring odor, delicious and spicy. In this way it draws large numbers of insects such as moths, butterflies, bees, flies and beetles. Its pollination must be effected by insects if at all. Standing on the flower to get nectar, the insect's feet fall into slits on the side and become engaged with the pollen masses inside. If the insect is not strong enough to remove his feet he is held captive by the flower and dies, if not eaten by his enemies or able to free himself by breaking a leg. Strong insects are able to remove their feet, usually extracting the pollen masses, which are carried to the next flower, causing pollination.

The flower and all of these events may be photographed with suitable apparatus and much patience. Magnified photographs with the camera bring many difficulties, perhaps easily overcome individually but when acting together are annoying and require much time to surmount. Some parts of this milkweed subject must be photographed through the microscope. The pollinia and the feet engaged in the trap may be brought up to almost any degree of magnification when carefully mounted in balsam. By the use of suitable plates and color screens facts are often revealed that otherwise might not be observed.

There are many fascinating books on insects and flowers. The subjects, although well explained, do not always convey the facts to one not familiar with them. The camera lucida gives results superior in some ways, yet inferior in others. There is a large field open in this branch of photography to those who have both patience and time.